

# Bird-Lore

A BI-MONTHLY MAGAZINE  
DEVOTED TO THE STUDY AND PROTECTION OF BIRDS  
OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Vol. XXII

MARCH—APRIL, 1920

No. 2

## A Bird Watcher in France

By DR. HERBERT R. MILLS, Tampa, Florida

FROM August 1917 until July 1919 it was my fortune to serve as medical officer with the American Expeditionary Forces, first with the British Army in Belgium and later with the American First Division in France and Germany; and during this time I made such bird-notes as my limited opportunities would permit. In the northeastern part of France, where for obvious reasons these notes were principally taken, bird-life is fairly abundant, as far as the small song-birds are concerned and the insectivorous and seed-eating species, while the larger raptorial and water-fowl are notably lacking. The country is beautiful rolling farm-land cultivated to the ordinary grains, vegetables, and fruits. Among the carefully groomed fields, meadows, and park-like woods, the little villages are clustered as closely almost as single farm-houses are in our country. I do not believe that the average United States soldier would consider it an exaggeration to call the climate "cool and moist."

I believe that the most conspicuous birds of France are the Crows of several species, and it was with the Rook (*Corvus frugilegus*), a member of the Crow family, that I became most intimately acquainted. Rooks are everywhere—hundreds may be seen feeding in the field at one time, and they nest in the woodland groves in colonies of thousands; whence it is likely that our word "rookery" originated. The young are used for food, and about April, when the nestlings are still in the down, the people resort to the rookeries with climbing irons and sacks and gather the young from all the accessible nests. The government pays a bounty of 25 centimes (5 cents) for young and old birds, so that, since the French soldier is said to be paid but 25 centimes a day for his services, I do not wonder that he seeks to augment his meager pay and wartime rations with this source of food. In the fields, associated with the Rooks, are Crows (*Corvus corone*), Hooded Crows (*Corvus cornix*), Jackdaws (*Corvus monedula*), and Starlings.

In December, 1918, on the march of the First Division into Germany, I saw thousands of Jackdaws swarming to the Moselle Valley every night to roost. At that season, and in that northern latitude, it is interesting to note that the

Jackdaw's night began at about 3.30 P.M. During the breeding season they inhabit cathedral towers, ivy-grown ruins, and fortifications. Their call-note is very similar to that of our Red-bellied Woodpecker. Magpies (*Pica rustica*) are common all over France. Like the Crow (*Corvus corone*) they nest in isolated pairs and often place their nests of twigs in the tops of poplars, where they are sometimes difficult to distinguish from the clumps of mistletoe with which these trees are so heavily infested. I was surprised one day to see a Magpie laboring along with a full-grown field-mouse in its bill. In the fall, the Starlings (*Sturnus vulgaris*) flock to the fields with the Crows and Rooks, but in mating-time they usually frequent dwelling-places, building their nests about buildings or in holes in trees. At all times the Starling is a pleasant and interesting companion, a comical songster, and moreover a bird of useful habits. It is unfortunate if our prejudice toward him in this country has made us blind to his many virtues.

In order of abundance the Swallows probably come next. The Swallow (*Hirundo rustica*), resembling our Barn Swallow, and the House Martin (*Chelidon urbica*), distinguished by the white upper tail coverts, are by far the most common representatives of this family. Only once have I seen Sand Martins (*Cotile riparia*). This was in September, 1918, near Mont Sec. The Swallows and House Martins build their mud nests under the eaves of buildings, and I saw them with young in the nest as late as September 22, 1917. In fact, this ought to be a good time for insect-eating birds to raise their young in France, as I have never seen common house flies in such overwhelming millions (except in Kansas) as they were in France in the early fall.

The Titmouse family is well represented, six species appearing on my list. The Great Titmouse (*Parus major*), Blue Titmouse (*Parus caeruleus*), Marsh Titmouse (*Parus palustris*), Coal Titmouse (*Parus ater*), and the Crested Titmouse (*Parus cristatus*) are all very common. The Long-tailed Titmouse (*Acredula rosea*) I observed but once and this was last April in the Westerwald of Germany.

Some of the most attractive birds of Europe are included in the family of Finches. The beautiful Chaffinch (*Fringilla caelebs*), the Goldfinch (*Carduelis elegans*), and the Bullfinch (*Pyrrhula europea*) are named in order of numerical occurrence as I found them. Of plainer plumage are the Tree Sparrows (*Passer montanus*) and the Yellow Hammer or Yellow Bunting (*Emberiza citrinella*), both of which are abundant. On April 14, 1918, near Beauvais, I saw the Cirl Bunting for the only time. The House Sparrow (*Passer domesticus*) does not seem as numerous here as with us, and instead of being despised, I found it in some localities, at least, to be held in rather high esteem. In fact, it is often encouraged to nest about dwellings by means of special nesting devices resembling jugs placed under eaves and over doors and windows; and I have seen up to a dozen of these innocent looking traps on one little cottage. Traps they are, for as soon as the young are well feathered and ready to leave the nest, they,



like the young Rooks, are used for food. During the season one pair of Sparrows will contribute several broods of young toward the food-supply of their human host.

France has many splendid song-birds. The Robin or Redbreast (*Erithacus rubecula*), Blackcap (*Sylvia atricapilla*), Skylark (*Alda arvensis*), Woodlark (*Alda arborea*), and Blackbird are among the best. I am not sure that I heard the Nightingale, but if I did I will give any of the above a place ahead of him as a songster. One May night, in Coblenz, Germany, I heard a bird singing which was said by a native to be the 'nachtigall.' It sounded like someone blowing a bird-whistle—the kind in which water is employed to produce the warbling effect. I think that the famous Skylark is the most gifted songster that I have ever heard, and to watch him in his ecstasy is to behold one of the most wonderful spectacles of nature. He begins to sing as he takes to the air and continues to sing without interruption as he mounts, hovers, soars, and, finally, after a moment or so of this supreme expression of musical exuberance, drops again to the ground. The song of the Lark is more than a song; it is a musical play and the sky is his stage. From early March until late summer, from dawn until dusk, his voice may be heard; even in the driving rain I have watched him sing.

One more especially remarkable bird is the brilliant little Kingfisher (*Alcedo ispida*). The first time I saw him was in September, 1918, while I was swimming in the River Meuse. It is said that the feathers of this species are used in the manufacture of artificial fish bait, probably because of some special lure with which the plumage of this little fisherman is believed to effect his prey. Swimming, by the way, with the body submerged in the water, is a very good means by which to observe birds at close range, as they often show no fear of a human head apparently detached and floating aimlessly about in the water. Thus I have sometimes been able to encroach within a few feet of beach birds on the Florida coast, that would, ordinarily, require a high-power field-glass for satisfactory observation. The method is not original with me, I having acquired it from an enthusiastic and resourceful bird-watcher of Knoxville, Tenn.

Space will permit me to mention only the remaining birds of my list, although the Water Ouzel (*Cinclus aquaticus*) and the Wryneck (*Lynx torquilla*) are as odd and remarkable as their names sound. The others are: Fieldfare (*Turdus pilaris*); Song Thrush (*Turdus musicus*); Wheatear (*Saxicola ænanthe*); Whinchat (*Pratincola rubetra*); Stonechat (*Pratincola rubicola*); Redstart (*Ruticilla phæniceus*); Black Redstart (*Ruticilla titys*), nest with young June 8, 1919, located in niche in wall of Casino (Officers' Club), Coblenz; Whitethroat (*Sylvia cinerea*); Goldcrest (*Regulus cristatus*), very similar to our Golden-crowned Kinglet; Hedge Sparrow (*Accentor modularis*); Nuthatch (*Sitta cæsia*); Wren (*Troglodytes parvulus*); White Wagtail (*Motacilla alba*); Pied Wagtail (*Motacilla lugubris*); Grey Wagtail (*Motacilla melanope*); Red-backed Shrike (*Lanius collurio*); Tree-Creeper (*Certhia familiaris*), almost identical

with our Brown Creeper; Jay (*Garrulus glandarius*), a very handsome and noisy bird with one very characteristic note which sounds like the ripping of a piece of tough canvas; Crested Lark (*Alauda cristata*); Black Swift (*Cypselus apus*); Cuckoo (*Cuculus canorus*), its call is a musical 'cuckoo' with the accent and higher intonation on the first syllable; Barn Owl (*Strix flammea*); Long-eared Owl (*Asio otus*); Kite (*Milvus icinus*)—I saw three of these uncommon birds together near Julvecourt on September 28, 1918, on the march of the First Division into the Argonne; Kestrel (*Tinnunculus alaudarius*) nesting in old Crow's nest, May 7, 1918, one egg; Mallard (*Anas boscas*); Wood Pigeon (*Columbia palumbus*); Turtle Dove (*Turtur communis*); Pheasant (*Phasianus colchicus*); Partridge (*Perdix cinerea*); Moor Hen (*Gallinula chloropus*); and Coot (*Fulica atra*).

It is interesting in this connection to compare the common English names of the European birds with those of ours and to note how misleading such names often are. The Blackbird of Europe is a "blackbird" in size and color of plumage perhaps, but the comparison ends there, for otherwise he is a Thrush in appearance, habits, and song. The Redstart is a representative of the old World Warblers and is entirely different in markings to our Warbler by this name. The English Robin, or Redbreast, is a 'Robin' as far as popularity goes, but that is all. He is, in fact, a small Warbler (*Sylvia*) with a bubbling, Wren-like song. Even the crimson throat and breast of this species and the rufous underparts of the American Robin are hardly enough alike to be worthy of comparison. Only the most casual observer would allow himself to be so influenced by the Sparrow-like markings of the little Warbler (*Accentor modularis*) as to call it the Hedge Sparrow. The Tree Sparrows of the two hemispheres are not to be confused. The Yellow Hammer is a Finch instead of a Woodpecker, and the Buzzard is a Hawk and not a Vulture. It seems that the early settlers in naming many of our birds were very careless observers and were guided largely by slight superficial resemblances with the birds of the mother country, with which they were familiar. The scientific name is the only exact designation of a species.

Game-birds are sold in the markets of France, whether legally or not, I cannot say. In Dijon I have seen Mallards and other Ducks exposed for sale, and in Nice, last fall, I saw Moor Hens, two species of Rails, and also Song Thrushes, Blackbirds, Jays, Magpies, and Tree Sparrows. In Marseilles, at the same time, I saw Thrushes, Skylarks, Goldfinches, and Bullfinches offered for sale as cage-birds.

With the small birds of the insect-eating class in predominance, and the birds of prey greatly reduced in numbers, we are not surprised at the results which this unbalanced condition seems to have caused, namely, a moderation in the numbers of insect pests and an over-abundance of injurious rodents—field-mice and moles with which the fields of France abound, and rats which were one of the scourges of the army. Snakes, another of the natural enemies



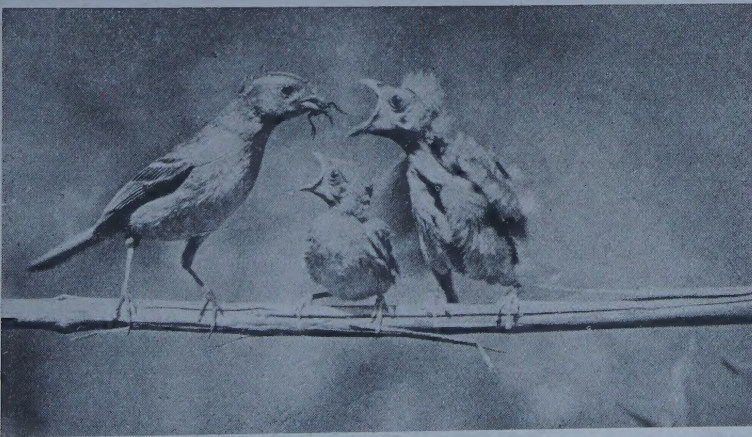
of these pests, are also very scarce. During the entire two years that I was in the A. E. F. I saw but one snake—a small Colubrine species—and it was dead. That the remaining raptorial, of which the Kestrel is the most numerous, are making a faithful effort to make up for the thinness of their ranks is evident at every hand. Pellets of bone and hair, and often of the chitinous parts of insects, are frequently found in the fields, and great quantities of them lie about the nesting-sites of the Owl, which I take to be the Short-eared Owl. At Nouart, near Buzancy, I found a pair of Barn Owls occupying a ruined church tower. Not only was the floor of this tower littered with bushels of 'pellets,' but there were many dead field-mice lying about uneaten, indicating that the Owls had continued to kill them even after their hunger had been satisfied. Two American 75's had struck this church before the Germans had evacuated the village, one of them carrying away part of the tower, but the Owls stuck to their post. It is probable, also, that weasels, which are quite common, exact some toll from the excess of rodents. With the exception of the fly plague, which persists for a few weeks in the fall, insects are kept well in check. Part of the credit for this must go to the birds but some at least is due their more humble allies, the lizards, toads, and bats with which this land is so richly endowed.

### Field Sparrows

By F. N. WHITMAN, Ithaca, N. Y.

With Photographs by the Author

**A** SLIM Sparrow form, with a caterpillar in its bill, dropping into a bush in a nearby slough, directed me to its nest, which I found located about 8 inches above the water, under a tuft of tall grass that bent over it. It was an unusually safe situation. When I drew aside the tall grass, instantly four young Field Sparrows jumped forth and started paddling away, but a



THE YOUNG COWBIRD CLAIMS HIS SHARE. COMPARE HIS SIZE WITH THAT OF THE YOUNG FIELD SPARROW





STUFFING THE FOOD WELL DOWN THE YOUNGSTER'S THROAT

Cowbird included in the family with its inherited trust in Providence, was quite content to remain where it had been well cared for. In contrast to the fairly well-feathered condition of the young Sparrows, then (June 12) about eight days old, the foster bird, which was about twice their size, was still in the quill-



A FIELD SPARROW FAMILY AND (AT THE RIGHT) A YOUNG COWBIRD  
ABOUT ELEVEN DAYS OLD



feather stage. Once, when I picked it up, its cries attracted the attention of a female Cowbird, which appeared much disturbed. Having palmed her family cares off on some other small bird, she apparently nevertheless felt a general interest in the young of her species.

On the third day after discovering the nest, as I was focusing on the young birds perched on a stick, the image of one of the old birds appeared on the screen, and thereafter they showed little concern at my presence, even when



THE FIELD SPARROW'S HOME—BOTH PARENTS AT THE NEST.  
YOUNG ABOUT EIGHT DAYS OLD

I stood within arm's reach. Green caterpillars were brought in abundance, also spiders, grasshoppers, etc., mostly obtained on the ground. Both parents were kept very busy with four of their own young and a foster Cowbird (which required double portions) to be cared for. The Sparrows fall and winter diet of seeds is varied in the spring and summer by one mainly of insects, and the young are apparently raised entirely on the latter.

During the busy period of raising their young, the Field Sparrows have no time for singing, but they, together with many other of the Sparrow family, voice their buoyant spirits well into the fall, and even in November we may hear their slightly tremulous farewell songs.



## A Surprised Crow

By VERDI BURTCH, Branchport, N. Y.

**T**O lure Crows close enough to the barn, from which the Pheasants figured in the last issue of BIRD-LORE were photographed, for a good picture we nailed several pieces of suet to a board, laid it on the ground and covered it with snow, leaving the pieces of suet exposed. Then, with C. F. Stone, I retired to the building, and, with both cameras trained on the suet, we awaited developments. Soon a Crow came and alighted some 8 to 10 feet from the suet and approached slowly and with great caution, walking around the suet and making feints at it. Finally he made a grab for it, and it was at this instant that we pressed the levers to our cameras, my shutter being released a fraction of a second before Mr. Stone's. As the Crow struck the suet, he jumped back, raising his wings, and my camera caught him before he was



THE CAUCUS



fairly under way, his tail in the snow and head and feet hidden by his partly opened wings (Fig. 1). Mr. Stone, however, caught him clear from the ground, his wings fully extended, head and feet forward, and with a beautiful look of surprise (Fig. 2). After this he seemed to be satisfied that there was no danger, for in a few minutes he was calmly pulling the pieces of suet from the board and eating it, with others of his clan.

## An Unusual Horned Lark Family

By FRANK LEVY

With a Photograph by the Author

IT was in the Calumet region, just south of Chicago, that on May 17, 1918, I first saw the pair of Prairie Horned Larks of which I am writing. At that time I could find no sign of a nest, although the birds appeared to be attached to a certain portion of the prairie. This was a dry section bounded on three sides by swamps at a distance of about 200 feet. It seemed queer to



HORNED LARK ABOUT TO FEED YOUNG

me to see three species of Rails, Coots, Pintails, and Blue-winged Teal within a short distance of the dry country inhabited by Horned Larks. On May 24, while working the same place, I flushed one of the birds from its nest, and, upon examining it, I found eight eggs. They were unquestionably all Horned Lark's eggs, and, to all appearances, from this one pair of birds. As far as I know, the usual set of eggs is three or four, this being the only exception that I have heard of.

Two weeks later, on May 31, after we had had two days of violent rain, I returned to Calumet and found not only that the nest was intact and that all of the eight eggs had hatched, but that the birds were about five days old. In fact, some of them kicked themselves out of the nest when I came near and tried their feeble legs. While I was examining the young birds from a distance of

not over 3 feet from the nest, I was surprised to see one of the parents approach and feed the fledglings as though I was not within a short distance of them and in no way concealed. I could not determine the sex of the adults, but I do know that they both fed the young ones and with the greatest regularity, about two minutes elapsing between each visit of the same bird. Thus, at least while I was there, some of the birds were fed every minute. The parents would circle about the nest after having found their food and approach on foot on the opposite side of the nest from where I sat. Usually they flew away from the nest, and walked up to it on the return trip. The young birds were fed only a peculiar white object from all sides of which fine, hair-like filaments projected. They seemed to get this food from the ground all about the nest and usually moved it around in their bills before feeding it. I could not identify this food or obtain a sample of it. It is shown in the accompanying photograph, taken without any concealment, and with the lens within ten inches from the nest.

## Migration Group Chart

By S. A. HAUSMAN, Cornell University, Ithaca, N. Y.

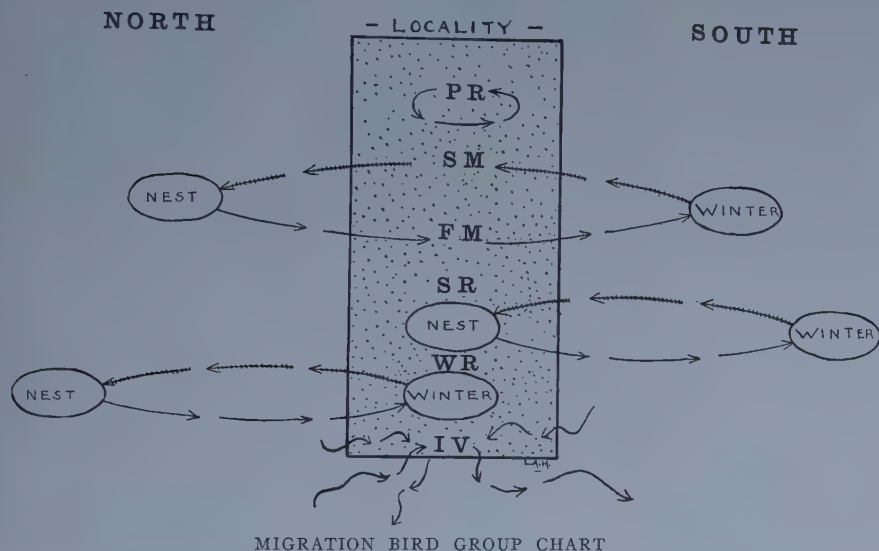
THE accompanying chart is designed to show graphically the rather complex relationships of the various migrational groups of birds which occur within any given area, and was devised to meet the needs of Junior bird students to whom the intricacies of migrational movements of birds are often apt to be somewhat of a puzzle.

The dotted area represents any given locality within which there normally occur at least six well-defined groups of birds: (1) The Permanent Residents (PR), or those which reside within the area, and do not migrate, at least to any great degree. Within the permanent resident group are included such birds as are represented within the area *as to species*. It is probable, however, that the individuals which one sees in the winter are not the same ones observed in the summer. Examples of this group in New York state are the Bob-white, White-breasted Nuthatch, Downy and Hairy Woodpeckers. (2) The Spring Migrants (SM) are those birds which nest to the north of the area, and winter to the south of it, and pass through the area in the spring. Examples: White-throated Sparrow, Myrtle Warbler, and Yellow-bellied Flycatcher. (3) The Fall Migrants (FM) are those of the group just mentioned returning to their wintering grounds in the fall. (4) The Summer Residents (SR) are the largest group and consist of those birds which winter to the south of the area, and return to it each spring to nest. This group contains the largest number of our best-known birds, such as the Robin, Bluebird, Phoebe, etc. (5) The Winter Residents (WR) comprise those birds which nest to the north of the area and come to us in the fall to spend the winter, such species as the Red-breasted Nuthatch,



Bluebill or Scaup Duck, and Herring Gull. (6) The Irregular Visitants (IV) are those which are not properly members of the avifauna of the area, but which, apparently, by pure chance or accident, straggle into the area from time to time. In the northern part of New York state examples of this group are the Evening Grosbeak and the Cardinal.

It will be noted that, in our latitude, the spring migration is from the south toward the north in the case of each group, and is represented by the upper



lines of heavy, cross-barred arrows, while the fall migration is in the opposite direction and is represented by the lower lines of plain-shafted arrows. The arrows which show the routes of the Irregular Visitants are intended to indicate that their arrivals and departures are capriciously north, south, east, or west.

For restricted areas where a bird migration record is being kept, such a chart is very helpful. It can be expanded and space sufficiently large left under the name of each group to enable the listing there of all the birds belonging to the group, with the dates of their arrivals and departures.



GOLDEN-CROWNED KINGLET AT HERBARIUM FEEDING STATION  
 Photographed by Wm. L. G. Edson

## Winter Feeding-Stations at Highland Park, Rochester, N. Y., 1916-17.

By W. L. G. EDSON, and R. E. HORSEY

THE winter feeding-stations at Highland Park, Rochester, N. Y., were continued through the winter of 1916-17, special attention being given to the Herbarium feeding-station, of which a day's record was kept on March 5, 1916, and printed in *BIRD-LORE* for September-October of that year.

A window-shelf placed at one of the Herbarium windows gave a chance for close study and sure identification, with photographs of our most interesting visitors, the American Crossbill, seven of which arrived January 15 and were seen almost every day until April 27. They lived only on sunflower seed, both from the food-shelf and food-hopper. At the end of the season (April 26 and 27) two White-winged Crossbills visited the food-hopper.

The suet was the attraction for another visitor not recorded last winter, a Golden-crowned Kinglet, noted all winter.

The Cardinal, an accidental visitor at Rochester, was with us again all winter, eating sunflower seed. The last one seen here was in 1913-14. It was recorded in the 'Report from Rochester, N. Y.' on bird-feeding in *BIRD-LORE* for December, 1914. The value of a feeding-station was proved, for sceptical persons were soon convinced of this bird's presence here, by spending a few hours at the stations where food was placed.

The Red-breasted Nuthatch ate quite freely of sunflower seed, while a year ago we had *no* record of them doing so. The best result, perhaps, was the nesting



of the Red-breasted Nuthatch in the Highland Park Pinetum, five young being raised in an Audubon bird-house No. 2, placed for them on an electric wire pole in the midst of thick hemlocks. The parents and young often come to the suet to feed. They left the nest on June 28. This is the first record we have seen of this bird breeding in Monroe County, N. Y.

Of course, the Chickadees, White-breasted Nuthatch, Downy Woodpecker, Hairy Woodpecker, Tree Sparrows, Brown Creeper, and Pheasants visited the stations, feeding as reported last year. While last year the Pheasants were fed in the thick portions of the evergreens, this year a station was established in the edge of them, where they were watched from the Herbarium windows, as many as eight being seen at a time, usually in early morning or late afternoon.

The suet is kept out all summer and is much enjoyed by Red-breasted and White-breasted Nuthatch, Catbird, Robin, Wood Thrush, and Brown Thrasher.



AMERICAN CROSSBILL AT HERBARIUM FOOD-SHELF  
Photographed by R. E. Horsey

# The Migration of North American Birds

## SECOND SERIES

### XII. ARIZONA JAY, CALIFORNIA JAY, AND THEIR ALLIES

Compiled by Harry C. Oberholser, Chiefly from Data in the Biological Survey

(See Frontispiece)

#### ARIZONA JAY

The Arizona Jay (*Aphelocoma sieberii arizonæ*) is a subspecies of Sieber's Jay, of which there are several subspecies in Mexico, but of which only the present and following form occur in the United States. The Arizona Jay is practically resident wherever found, and ranges from southeastern Arizona and southwestern New Mexico south to northeastern Sonora and northern Chihuahua.

#### COUCH'S JAY

Couch's Jay (*Aphelocoma sieberii couchii*) is the other United States race of Sieber's Jay, and ranges from southern Nuevo Leon northwest through the Mexican state of Coahuila to just over the United States boundary in the Chisos Mountains of central western Texas.

#### FLORIDA JAY

The Florida Jay (*Aphelocoma cyanea*) is resident, locally, in the peninsula of Florida, where it inhabits the low scrub south to Fort Myers and Miami and north to Jacksonville.

#### CALIFORNIA JAY

The California Jay (*Aphelocoma californica*) as a species now includes as subspecies several forms of the genus *Aphelocoma* that were formerly considered species. It thus has a rather wide geographic range from Washington and Idaho south to southern Mexico, and from the Pacific coast east to Wyoming and Texas. All its races, like all the other representatives of the genus, are strictly resident, and we have, therefore, no migration dates to offer.

The typical **California Jay** (*Aphelocoma californica californica*) occurs in the coast district of central western California, east to the Coast Ranges, north to the southern side of San Francisco Bay, and south to Santa Barbara and Ventura counties.

**Swarth's Jay** (*Aphelocoma californica oöcleptica*) inhabits the coast region of northern California, east to the Coast Ranges, south to San Francisco Bay, and north to Wedderburn, southwestern Oregon.

The **Long-Tailed Jay** (*Aphelocoma californica immanis*) is confined chiefly to California and Oregon, ranging north to central southern Oregon and southwestern Washington, west to the Coast Ranges of Oregon and northern California, south to the southern Sierra Nevada and south central California,



and east to the Sierra Nevada, to northwestern Nevada, central southern Oregon, and the Cascade Mountains in western Oregon.

**Belding's Jay** (*Aphelocoma californica obscura*) occupies the coast region of southwestern California and northern Lower California, north to the San Gabriel and San Bernardino Mountains, California south to Santa Ana, Lower California, at about 29° 20' north latitude, and east to the San Bernardino Mountains, California.

**Xantus's Jay** (*Aphelocoma californica hypoleuca*) is found in the southern two-thirds of Lower California, ranging from Cape San Lucas north to Yubay at about 29° 15' north latitude.

**The Texas Jay** (*Aphelocoma californica texana*) ranges in central and central western Texas east to Kerr County, north to Taylor County and the Davis Mountains, west to the Davis Mountains and the Chinati Mountains, and south to the Chisos Mountains.

**Woodhouse's Jay** (*Aphelocoma californica woodhouseii*) ranges in the western United States north to southern Wyoming, southern Idaho, and southeastern Oregon, west to western Nevada and southeastern California, south to southeastern Arizona, southern New Mexico, and the northern part of central western Texas, and east to eastern New Mexico and eastern Colorado.

#### SANTA CRUZ JAY

The Santa Cruz Jay (*Aphelocoma insularis*) is resident and confined to Santa Cruz Island in the Santa Barbara group, California.

### Notes on the Plumage of North American Birds

FIFTY-SIXTH PAPER

By FRANK M. CHAPMAN

(See Frontispiece)

**Arizona Jay** (*Aphelocoma sieberii arizonæ*).—In juvenal (nestling) plumage the entire upperparts are uniform gray, the underparts much as in the adult. At the postjuvenal molt these slight differences disappear and on its completion young and old are alike in color. There are no sexual or seasonal differences.

Sieber's Jay ranges over the greater part of the Mexican tableland, some six forms of it being recognized, of which two enter the United States, the present, and Couch's Jay.

**Florida Jay** (*Aphelocoma cyanea*). In juvenal (nestling) plumage the crown, nape, and breast-band are sooty instead of blue, the back somewhat darker, the underparts whiter, and the throat unstreaked; but these differences disappear with the postjuvenal molt, when all but the wings and tail-quills are shed; and thereafter young and old are alike.

The Florida Jay must not be confused with the Florida Blue Jay. The latter

is a closely related form of our northern Blue Jay, the former is a representative of the *Aphelocoma californica* group of Jays of the western United States. Reference to the plate will show how closely it resembles the California Jay, nevertheless its range is separated from that of the nearest race of that species (Texas Jay) by no less than 1,000 miles. The occurrence in south central Florida of the Burrowing Owl presents a similar and equally puzzling problem in distribution.

**California Jay** (*Aphelocoma californica californica*). In juvenal (nestling) plumage the crown and sides of the head are grayish brown, the back somewhat paler with no tinge of blue, the white line over the eye of the adult is obscure or almost wanting, the breast-band is faint dusky and the streaked appearance of the throat is barely suggested. At the post-juvenal molt the tail and wing-quills are retained, the balance of the plumage molted when the bird acquires a plumage similar to that of the adult; and thereafter there is no essential change in its appearance.

In slightly differentiated forms the California Jay is found throughout the greater part of the western United States and southward into Mexico. Since it is non-migratory, only one form may be expected to occur in a given locality, and the various forms may be better identified by the locality in which they are found than by the characters on which they are based. The student is therefore referred to Dr. Oberholser's statement of the ranges of the various races in the preceding paper.

**Santa Cruz Jay** (*Aphelocoma insularis*). This is a closely related, dark form of the California Jay inhabiting Santa Cruz Island of the Santa Barbara group. If its range met that of the mainland form the two would doubtless intergrade, when the island bird would be ranked as a subspecies, but as the insularity of the bird's home prevents such contact, and as it is sufficiently distinct not to intergrade by individual variation, it is ranked as a full species. Its plumage changes are doubtless similar to those of the California Jay.





# Notes from Field and Study

## A Western Bird-Table

Bird-lovers in the East who dread the appearance of frost and snow would do well to remember that it is these things alone that make possible the friendly intimacy of winter bird-feeding. The accounts which I read in BIRD-LORE bring back to me chilly remembrance of the friendly Chickadees, Nuthatches, and Blue Jays in Wisconsin.

I myself have a bird-table prepared in my yard, yet though it is placed in a most inviting situation, under the shelter of a giant, broad-leaved, red-berried madrona, not a single bird visits it, nor do I expect any to come unless we have a fall of snow. Then for a day or two, or, if the winter is severe, for a possible two weeks, the birds fairly swarm to the table, only to desert it entirely with the coming of the first 'Chinook.' Perhaps some of you would be interested in knowing of the birds that visit a Pacific feed-table. The following is my latest list: Oregon Towhee, Rusty Song Sparrow, Oregon Junco,

Brewer's Blackbird, Western Robin, Varied Thrush, Red-shafted Flicker, Harris's Woodpecker, Northwestern Redwing, Townsend's Sparrow.

I have had as many as four of these varieties feeding at once: Rusty Song Sparrows, Oregon Juncos, Varied Thrushes, and Western Robins, and, at another time, Oregon Towhees, Oregon Juncos, Varied Thrushes, and Western Robins.

The Juncos are the first and most frequent visitors. They fairly swarm about the table, from twenty-five to one hundred birds often waiting for their turn. Townsend's Sparrows are very shy, seldom more than two or three visiting the table at once, and easily frightened. The Red-shafted Flickers and Harris's Woodpeckers are also shy and come creeping along the picket fence to the table in a depreciating, apologetic sort of way. The Western Robins, though shy, are undoubtedly the 'boss' of the table, driving all other visitors right and left. I have often seen one of them after gorging himself sit for half an hour at a time, keeping all the other



CHICKADEE AND TUFTED TITMOUSE  
Photographed by T. L. Hankinson Charleston, Ill.

birds away, though he did not care to eat himself.

Next in number to the Juncos are the beautiful Varied Thrushes. The brightly-colored males are much wilder than the females, seldom approaching when anyone is in sight. Among their own kind they are a very quarrelsome bird, fighting and squabbling continually. One of the pleasant features of the Varied Thrushes' visit is that even in winter they give voice freely to their unique, vibrant song, which has a peculiar, most penetrating effect on a clear frosty morning.

While the cold and snow drives Townsend's Sparrows and the Varied Thrushes from the mountains to settled sections and villages, it seems to bring the Brewer's Blackbirds from the lowlands into the hills, perhaps for the shelter which the firs afford. A single female of this species first visited my table late one winter and was very tame. Later she returned with a very shy male, and finally a flock of five were visiting me, accompanied occasionally by a female Northwestern Redwing.

The Oregon Towhees seldom visit the table itself, but are content to eat the crumbs that fall to the ground, while the Rusty Song Sparrows divide their attention about equally between the table and the ground beneath.

Suet, the standby for bird-feeding in the East, is rather at a discount here. Apples and rolled oats are the most favored food, though a dry cookie, carefully nailed down, is much relished. If the season is favorable we may have several of these skits of snow between December and March, during which the bird visitors come and feed, but two or three weeks, altogether, in a winter is the extreme limit.—LESLIE L. HASKIN, *Lebanon, Ore.*

#### What Has Become of the Golden-crowned Kinglet?

The article on 'The Scarcity of Golden-crowned Kinglets,' by Francis H. Allen, in the November-December, 1919, BIRD-LORE, caused me to inspect carefully my bird-records for the past several years.

I found that the Golden-crowned Kinglet was one of our most common winter residents until the hard winter of 1917-18, when, for the first time in my years of observation, it failed to stay here; or else perished because of the severe weather. It was rarely seen in the spring migration of 1918 and was still far from its old-time numbers in the fall of that year. Probably remembering the coldness of the previous winter, it migrated farther south, although last winter was exceptionally mild. The earliest record for this year was March 26. At only one time did it approach normal numbers, April 7, the last date it was seen in the spring. Though it seems to be wintering here this season, it is very rare, not over thirty individuals having been seen since the beginning of the fall migration. It would be interesting to know how general this scarcity has been, even in migrations, in the past two years.

The number of Mockingbirds and Carolina Wrens, so noticeably lessened by the winter of 1917-18, is again normal. The Carolina forms, as of old, one of the small group of vigorous winter songsters, and the Mockingbird kept up its medley in unusual richness until the bitter days of the December blizzards.—GORDON WILSON, *Bowling Green, Ky.*

#### Scarcity of Golden-crowned Kinglets

The article by Francis H. Allen, in the December issue of BIRD-LORE, on the scarcity of the Golden-crowned Kinglets in Massachusetts, was of interest to me from the fact that the same condition prevails here in northern Ohio, and dates from the same period as Mr. Allen's observations—the fall of 1917.

During the year of 1917 I noted this species on forty-two different days and usually in large numbers. During 1918, I noted them on but ten different days, and only in small numbers or individual birds. During 1919 I have seen them on only six different dates and only two or three at a time.

These figures give a correct ratio of the increased scarcity, I believe, for I have



kept a daily bird record for a number of years and have spent an equal number of days afield during each year.

For a week previous to November 2, 1917, the nights were wet and windy and such birds as White-throated Sparrows, Hermit Thrushes, and others that tarry late in October, were held up from further migratory movements, so that on this day, though there was a foot of snow on the ground, one had the unusual pleasure of seeing the bushy roadways and wood borders literally alive with the above-named birds—and also Fox Sparrows, Towhees, Rusty Blackbirds, Song Sparrows, Myrtle and Palm Warblers. And, as for Golden-crowned Kinglets, there were *thousands*. I walked about six miles through the snow, and it seemed as if every dead weed above the snow had a Kinglet on it, searching for food. During the spring of 1918, I saw but two individuals.

The winter of 1917-18 was an exceptionally cold one, but I do not think the cold alone destroyed the Kinglets (and other species also, for there has been a lessening in numbers of certain other birds). But I have a theory that a certain kind of storm does take a big toll from the smaller winter birds. During December, 1917, on two different occasions, we had a drop in the thermometer of nearly forty degrees—each time the mercury stood above 32 in the evening and at zero in the morning. This, too, the birds might endure, but each time it began with a heavy rain and ended by covering everything with ice and sleet. One can imagine what happens to birds that spend the night protected only by winter weeds, brush, or evergreen shrubbery, especially when the wind blows a gale. Their feathers become soaked, and then freeze during the sudden fall in temperature.

After the second storm of that December, a magnificent Bald Eagle was captured on the beach, his plumage so ice-coated that he could not fly. This bird was kept during the winter by the man who made the capture and then released. Now if such a storm can put a Bald Eagle *hors*

*de combat*, what must it not do to such birds as Kinglets, Tree Sparrows, Juncos, and wintering Song Sparrows?—E. A. DOOLITTLE, *Painesville, Ohio*.

#### Evening Grosbeak in Connecticut

It may be of interest to note that yesterday, December 17, I saw a flock of from six to eight Evening Grosbeaks. The flock contained birds with the bright-colored plumage of the males and also a number of the duller colored females. This is the second time I have had the pleasure of seeing these birds, the other occasion being in 1911, when a large flock stayed for some time in this vicinity. I have heard Mr. Job in one of his lectures express regret that although he had been informed of this large flock of Evening Grosbeaks, on account of business reasons he was unable to come here and secure photographs of them.—W. E. FULLER, *Norwich, Conn.*

#### White-winged Crossbill in Brooklyn

I think it will interest readers of BIRD-LORE to know that the writer has had the extremely good fortune to see a White-winged Crossbill this fall—and that in the heart of the city. On October 31 I saw this rare and interesting bird in the midst of a flock of House Sparrows about 100 feet from my house.

The bird first attracted my attention by its white wing-bars and yellow rump, as it flew down to the gutter from a small tree. I had it within 4 feet of me for almost 2 minutes, and had a fine opportunity to scrutinize every mark on it. The general color was a dull greenish olive; the underparts were quite gray, and the back and head mottled with black. The tips of the mandibles were plainly crossed. Altogether there could be no doubt but that it was an adult female White-winged Crossbill.

When I came back in the afternoon the bird was not to be found and since then has not appeared.—RALPH FRIEDMANN, *Brooklyn, N.Y.*

**Prairie Horned Larks and Lapland Longspurs at Ithaca, N. Y.**

The winter of 1915-16 was very severe in this part of New York, and many birds whose habitat is a more northerly one spent the winter with us. It was noticed that the Prairie Horned Larks were here in great numbers, and since practically all of their natural food was covered up by the heavy and successive snowfalls, a feeding-station was started for them on a sheltered hillside. The Larks were soon

another. A male would stop feeding, lower his head, slightly elevate his tail, and then dart at his nearest neighbor and try to chase him from the food. Of course this usually resulted in a fight. While they were feeding one could almost always hear the rustling of wings and the sharp, whistled notes as several of the Larks were settling their differences. When the food was all used up, or along toward evening, the Larks would scatter and find sheltered places to rest. At such times they were often seen sitting on stakes and posts in



LAPLAND LONGSPUR AND HORNED LARKS

coming by tens and even hundreds, and a quart of feed would barely last an hour.

Almost all of them became quite tame and moved away but a few feet when one came to replenish the food-supply. At such times it was an interesting sight indeed to see the field dotted with Larks waiting for their luncheon! It was an excellent opportunity for close study, and we found that we had not only the Prairie Horned Larks (*Otocoris alpestris praticola*) but also several of the Shore Larks (*O. alpestris alpestris*) that are very rare in this vicinity, coming regularly to the feeding-station.

They were very quarrelsome while feeding and were continually rushing at one

the field, and, on one occasion, one perched on a small tree, a quite unusual thing for a Horned Lark to do.

The Horned Larks were not to enjoy this free food all by themselves, however, for soon Snow Buntings began to come and mingle with them. They were rather shy and always stayed on the outskirts of the noisy Lark-mob, not seeming to appreciate their rough tactics. When the Larks were satisfied and moved away from the food, the Buntings would go in and help themselves. These birds never became as tame as the Horned Larks and generally flew away on our close approach.

One day, several Sparrow-like birds were seen at the station, but they flew



away before we could tell what they were. After they had patronized the food-supply for several days they became much tamer, and we were greatly surprised to see that they were Lapland Longspurs, a very rare migrant, never having been reported here before. They stayed with us while the feeding-station was in operation and were not so shy as the Buntings, but came right up and fed with the Larks.

The weather now was becoming warmer, since this was the latter part of March, and one day, after the snow had melted somewhat, only a few Larks, no Snow Buntings and no Longspurs showed up for dinner. We thought that they had left for the north, but that night another snow came, and the next day Larks, Buntings and Longspurs, all were back again. But spring was on its way, and soon bare spots began to show on the hillsides. The Snowflakes and Longspurs left for the north, and the Horned Larks began to be occupied with domestic cares. The feeding-station was deserted.—C. W. LEISTER, *Ithaca, N. Y.*

#### American or Red Crossbill at Pittsburgh

On Saturday, October 25, 1919, I happened to be with a friend in the suburbs (Brentwood), harvesting some pumpkins and digging potatoes from my Victory Garden, when a flock of Red Crossbills came chattering overhead, and lighted upon the sunflowers left growing among the cornstalks and now quite ripe and dry. There were, perhaps, twenty to twenty-five of them, both male and female. They were quite at their ease, and seemed to be gentle and unsuspicious. There could be no doubt of their identity, as not only the dull brick-red of the male, brighter on the rump and rusty in the middle of the back, shading to red-gray on the wings, but the dull olive-green of the females, as well as the one characteristic mark alike of both male and female—the crossed beak—were plainly discernible at not over 10 feet distance. They soon took flight but returned a moment later and

settled down all around me, and I noticed their swift, dipping flight like that of the American Goldfinch, while on the wing. They remained in the vicinity for some minutes and then flew off in a bunch over the corn-shocks toward the distant hills, with a low, twittering song in unison, as if the birds were talking to themselves.

It was the first Crossbill of my experience and the earliest, I believe, to be recorded in the vicinity of Pittsburgh. All accounts seem to indicate that it is a winter bird and that it feeds almost exclusively upon the seeds of coniferous trees. Does their early arrival, together with their feeding upon sunflower seed, indicate a scarcity of cone seeds in the far north? In this connection it is interesting to inquire, with Mabel Osgood Wright, "If its beak is a development to meet food conditions, will it be gradually modified by the cutting down of the forests of conifers?" Perhaps the Crossbill is changing its habits to meet the changed conditions as a result of the H. C. of L.—MILO H. MILLER, *Pittsburgh, Pa.*

#### Notes from London, Ont.

As it is several years since any notes have appeared from London, Ont., the following unusual occurrences may be of interest to BIRD-LORE readers.

On the afternoon of May 4, 1918, while hunting through a large field for Bartram's Sandpiper, we flushed a Short-eared Owl from one of the low, damp spots. The bird flew a little way and lit on a stump. We tried to get closer to it but it flew to another stump. Finally, it rose into the air, and, circling higher and higher, was soon lost to sight in the distance. In the air it looked like a large Hawk, for which we would have, no doubt, mistaken it had we not first seen it on the ground. This bird may be commoner in our neighborhood than is generally supposed, but if so, keeps itself well out of the way of the members of our club.

Just south of the city there is a group of three small ponds which we hope some day may be turned into a bird sanctuary.

In the vicinity of these ponds many of our most interesting 'finds' are made, and the summer of 1918 was one of the best yet experienced. This was probably due to the fact that one of our members camped there for some weeks, and each morning paddled around in a canoe to see what interesting changes had taken place over night.

On August 8, a Long-billed Marsh Wren was found, although the location was rather different from that usually favored by these birds. It was not seen again. This is only the third time this Wren has been reported from our county.

On August 11, a Black-crowned Night Heron, in the juvenal plumage, was noted. It remained for several days and was seen by a few fortunate ones. This bird is decidedly rare with us.

A family of Least Bitterns, consisting of the parent birds and four youngsters, was also located. They made a very pretty group as they squatted among the willows along the shore, or walked sedately away through the bushes to avoid the prying eyes of those who wished to study them more closely.

On Oct. 22, 1918, a Barred Owl was seen, also at the ponds. This is the first record of the Barred Owl for many years.

On April 19, 1919, an adult Bald Eagle was observed, and about two weeks later the nest was discovered in a large buttonwood tree. This is the first time in many years that the Bald Eagle has nested in our county. They succeeded in raising two young, but we heard afterward that they had both been shot. We can only hope that the old birds have escaped.

A Carolina Wren spent the summer of 1919 with us, living in the north end of the city. It was first noted on May 29, and after that its ringing song could be heard almost every day. We never learned whether it had a mate or not.

Previous to 1919 we had only one record of the Hudsonian Chickadee. This winter two specimens have been taken in the country just north of London, and a third bird has come into the city and has visited the food-shelves of several of our members.

It appears on our Christmas Census. It mixes more or less freely with the other Chickadees, but can easily be picked out of the flock by its more sluggish movements. Is this characteristic of "Hudsonicus"?

On Dec. 28, 1919, a crisp winter morning with several inches of snow on the ground, a White-throated Sparrow was heard to sing quite merrily several times from a Norway spruce hedge along one of our city streets. The occurrence was reported, and one of our members went around later in the day and whistled to it. The White-throat answered quite readily. These birds will sometimes brave our Canadian winter, but to hear one singing with Maytime vigor on a winter morning, with the thermometer not far from zero, was decidedly startling. —C. G. WATSON, *Secretary McIlwraith Ornithological Club.*

#### A Pennsylvania Mocker

It may be of interest to note that a Mockingbird is wintering in Newtown, Bucks County, Pa., surviving the cold weather, no doubt, because of being well fed and looked after by one or more members of the Newtown Nature Club. All the members of this club are endeavoring to feed the winter residents here, but without much success because of the Starling which has become a most obnoxious pest, driving away our native birds, appropriating the hole nesting-sites, and even killing birds. Any information regarding what is being done about the Starling in other localities will be gratefully appreciated by both the Newtown and Yardley Nature Clubs.—MRS. C. C. PETERS, *Newtown, Pa.*

#### Evening Grosbeak in New Jersey

During the heavy snowstorm of the first week in February there arrived at my home in Point Pleasant, Ocean County, N. J., two Evening Grosbeaks, a male and a female. This is the first time, to my knowledge, that these birds have been



seen in this locality, and their occurrence is doubtless due to the extreme severity of the winter. Since their arrival they have been daily visitors, and the male is extremely approachable, but the female is wild and cannot be induced to join the other birds when we feed them.

It is a quite remarkable fact that while the Cardinals, Fox Sparrows, Song Sparrows, Juncos, Pine Finches, Starlings, and our other regular visitors seem to avoid the society of the Blue Jay, the Evening Grosbeak has no such compunction. The male Grosbeak and a male Blue Jay sat side by side on the limb of a wild cherry tree opposite my window for almost an hour without the slightest sign of battle.—A. P. RICHARDSON, *Point Pleasant, N. J.*

#### Winter Notes from Ames, Iowa

The weather of early December, 1919, in Iowa, was the most severe that has been recorded for several years. In many parts of the state the thermometer hung around zero for most of this time, and at Ames on several occasions it recorded more than 10 degrees below. During this period most of the state was covered with a deep blanket of snow, varying in thickness up to 12 inches. Such a severe period of weather so early in the season has doubtless had a modifying effect upon bird migrations, especially upon the movements of our rarer winter visitors.

A feeding-station maintained at the writer's house was early besieged with an unusual number of visitors. The Blue Jay and Hairy Woodpecker came to a window-ledge shelf to feed, while male Downies glutted themselves, unperturbed, only a few inches away on the outside of the window-pane. The feeding-station visitors were much more abundant during the month of December than during the more open month of January or the first two weeks of February.

Brown Creepers have been unusually abundant this winter at Ames. Out of a record of 10 species and 144 individuals for December 25, 8 were Brown Creepers; of 11 species and 186 individuals recorded

on December 28, 5 were Brown Creepers; of 8 species and 38 individuals reported for January 25, 5 were Brown Creepers.

A flock of Bohemian Waxwings was noticed on January 20. They were first seen feeding on a few thorn-apples left adhering on a tree just outside of the city limits. After being observed a few minutes, the flock flew into the city. At this time 37 birds were counted. The next day the flock attacked a tree of wild crab-apples in the same vicinity, but inside the city limits. The tree was well loaded with fruits perfectly formed but frozen and bitter. Here these birds were seen not only on the 21st, but some of them for every day thereafter until February 4. As they continued to feed on these fruits, some of them became quite tame and would sit or feed in the tree, even with the observer only an arm's-length away. This was true, however, of only a few birds. Upon near approach, some of them would always, and most of them would usually, fly away at the alarm of a leader. The large flock frequently broke up into smaller flocks, yet no matter how frequently divided, they would later all get together in one flock. All birds at first were averse to feeding near the snow-covered ground, with the result that by January 28 the upper and middle branches were completely robbed of their fruit, while those near the ground were loaded and untouched.

On February 4, the flock disappeared, and not a single Bohemian has been seen at Ames since. An examination of the crab-apple tree on the 7th showed that hardly a single fruit had been left. The lower branches had shared the fate of the upper ones and were bare. In this flock, which contained at one time about 50 individuals, not a single Cedar Waxwing was observed, and, it may be added, that Cedar Waxwings have not been recorded here since January 1.

The white-winged Crossbill was seen a few times during the winter. On February 15, Dr. Charles Murray brought a dead male to the Department of Zoölogy for determination. Dr. Murray stated

that the bird, together with two others not so strongly marked, had been observed for several days previous.

The Cardinal, which is rare at Ames, was observed only once, December 28, one individual being seen. The largest number of Cardinals ever reported for one trip at Ames is only 5, which were seen April 20, 1919. Conditions for the Cardinal have been improved here, and it is hoped that in the future it will become the fairly common bird that it now is in some other parts of Iowa.—H. E. EWING, *Ames, Iowa.*

#### Unusual December Birds at Branchport, New York

Although December, 1919, was a wintry month, with considerable zero weather, several species of our summer birds failed to take advantage of the opportunity to migrate with others of their kin.

Between December 16 and 23, I observed a Great Blue Heron braving the wintry winds out on the ice of Lake Keuka, while, nearby, a Kingfisher seemed to be admiring the Heron's stately, one-legged pose.

An active, noisy Robin is a visitor of our locust trees, and a Mourning Dove is a frequent visitor and feeder in a nearby barnyard.

December 23, about twenty Redwinged Blackbirds and Cowbirds flew about town. At the same time the weather was such that Siskins and Crossbills were numerous, and great numbers of Snow Buntings have been here since December 20.

Evening Grosbeaks were reported at Penn Yan on January 1 by James Flahive, therefore we may expect to have these aristocratic visitors with us this winter.—CLARENCE F. STONE, *Branchport, N. Y.*

#### The Golden-crowned Kinglet

In the November-December (1919) BIRD-LORE, page 361, some interesting data relative to the growing scarcity of

Golden-crowned Kinglet has led me to review my notes on this species for the past few years. As a result, I find that it has become a scarce bird, locally. It is generally a common migrant and a few usually winter. However, last fall it was only seen on three dates, with not more than half a dozen individuals. I have taken several long tramps during the winter, (1919-20), visiting its former winter haunts, but have failed to find a single Kinglet.

It was abnormally abundant in the spring of 1917 and was very numerous the succeeding fall and well up into December. That winter (1917-18) was the severest Kentucky has known for many years. But few Kinglets were seen, after December, during the winter. During April, when they are usually so numerous, less than a dozen individuals were seen. It would seem that the severe winter of 1917-18 is in some measure responsible for the recent decrease in numbers of this species.—BEN. J. BLINCOE, *Bardstown, Ky.*

#### Prairie Chickens in Northern Indiana

Early on the morning of January 19, 1920, I was on a Pennsylvania train eastward bound from Goodland, Ind. Just west of the town of Walcott, a flock of Prairie Chickens, frightened by the train, rose near the railway track and flew away over the snowy fields. As near as I could count, there were ten birds in the flock. A half hour later I saw a second flock east of Monticello. I counted fifteen birds sitting in a snow-covered grain-field. I had long thought of the Prairie Chicken as practically extinct in this part of the country and was delighted to see so many in one day—had hardly seen so many, all told, for twenty years.

I thought, when I saw the birds, that they were migratory flocks, brought in by the unusually abundant snowfall in the Dakotas and in Minnesota, but am told by our Indiana ornithologists that they were probably resident birds. Bird students here say the species does not migrate. At first I thought them mistaken



as I knew the Prairie Chickens were migratory west of the Mississippi River, but have since found a statement by the A. O. U. that these birds do not migrate east of the Mississippi.

The locality where I saw the Prairie Chickens is a part of the original prairie region of the state and near the original eastern boundary of the species. If they were really resident birds, it seems certain that our game-protective measures, together with an enlightened public opinion, is surely bringing back this splendid bird to our Middle Western States.—W. A. SQUIRES, *Gary, Ind.*

#### Bohemian Waxwing in Northern Steuben County, N. Y.

I am glad to report the occurrence of the rare Bohemian Waxwing here in northern Steuben County, N. Y. They came on the wings of a terrific blizzard on January 18, and, on the morning of January 19, I found 24 of the Bohemians and one Cedar Waxwing feeding on the abundance of shriveled fruit in our choke-cherry hedge.

They were so tame that I approached within 10 feet while they flitted through the tangle of branches, at times flying toward me and alighting on the snow to eat the dried cherries that rattled from the bushes. During my close observations the Bohemians ate greedily and scarcely paid any attention to my presence.

During thirty years of active field bird-study, this is the first time I have noted this species. At the time of writing this (January 19) I can see the Bohemians from my window.—CLARENCE F. STONE, *Branchport, N. Y.*

#### King Rail in Winter

It occurs to me that possibly you might be interested in the occurrence of a King Rail in the vicinity of New York City in the winter time.

On February 8, 1920, when walking on the crusted snow through a small freshwater marsh just outside of the city, I

was surprised to start a bird of this species from a clump of matted reeds. I had a very good look at it as it ran over the snow, and there could be no doubt as to its identity.

On February 12 I again visited this marsh, and saw the bird. This time it ran out, as before, from almost underfoot, but managed, with great apparent effort, to take to the air. It came down in the reeds about a hundred feet away, quite close, as it happened, to a wandering boy and dog. The dog immediately gave chase, and the Rail, doubtless weakened by hunger, did not attempt to fly again. The Rail was overtaken after it had run a great race, but we managed to rescue it uninjured. After a careful examination, we released it.

Other birds I have observed this winter and consider unusual are: a Wilson's Snipe and eight female Red-winged Blackbirds on January 4; and a male Red-winged Blackbird, and a male with two female Rusty Blackbirds on February 12.—JAMES R. WEBB, *New York City.*

#### Nonpareil Wintering in Florida

While spending the winter in Daytona, Fla., there came, several times a day, to a feeding-station upon the ground, four female (or immature) Nonpareils, and fed on the mixed grains kept there. The first one I saw on February 5, 1919. Not knowing what it was, I took a book and turned to the Key for Sparrows, tracing it at once to the Painted Bunting (female). I had never seen one before, so hesitated to name it positively. On my way north I stopped at Charleston, and there visited the museum, where I saw good specimens of the Nonpareil. The female and the birds I saw in Daytona were identical. I also visited the new museum at Washington and again verified them.

Several bird-lovers, who had spent many winters in Daytona, came to see these birds, and all said they had never seen any like them. One gentleman (Mr. Stillman of Plainfield, N. J.) said he was positive there was no record of a Nonpareil in

Daytona, and as he was a careful bird student who had watched the birds there many years, I thought it might be worth sending this account.

After a few days two birds appeared, and six days from the time of seeing the first bird, there were four beautiful Nonpareils feeding several times a day. With the exception of two days of continuous high wind, we watched the birds daily from the window from February 5 to March 24, the last day of their appearance. The green of the head and back was very bright and in the sunlight the back took on a really metallic luster; wings and tail margined with deep green; under parts greenish yellow; eye-ring of the same greenish yellow, very distinct; bill less stout than many of the Sparrows; seed-eaters. One of the four was a much brighter green and looked a *trifle* larger than the other three. As they fed on the ground their green blended perfectly with the green of the violet leaves.

These birds, visiting this yard at Daytona, were no more shy than most of the other species frequenting the same feeding-station—Hermit Thrush, Thrasher, Woodpeckers (Red-bellied), Ground Doves, Cardinals, White-throats, Song Sparrows, Blue Jays and Mockingbirds.—MARY C. DODGE, *Worcester, Mass.*

### The Purple Grackles Steal Their Suppers

After a three-day blizzard, on April 12, 1918, I counted 37 Robins feeding in the schoolyard which in spots had been swept clean of snow by the wind. Besides these Robins, there were at least 20 Purple Grackles and maybe 60 more up in the pines nearby. The Robins were busy catching their suppers, which consisted chiefly of worms, and they seemed rather successful.

The Grackles weren't doing as well and looked with envy, at the fat worms the Robins were pulling out of the ground. One of the Grackles, seeing a Robin right next to him pull up a worm, while he couldn't find any, darted down on the surprised Robin, who flew away, leaving

his hard-earned prize for the crafty Grackle. This Grackle tried the same trick again, and was equally successful. Again he tried the trick with the same results. The other Grackles, getting the idea, began to try it, and some fifteen of them glided down from the pines. This gliding is one achievement in which they excel. If a dog hadn't run across the schoolyard just then, the Robins would have been chased off their hunting-grounds, but the Grackles, as they are frightened by the least disturbance, flew away.—G. GILL, *Sea Cliff, N. Y.*

### A Rendezvous of Red-winged Blackbirds

Among other birds the Red-winged Blackbirds are, this season, more abundant than ever before about Iowa City. One of the favorite early-season congregating-places in this locality is a mud-flat about 100 yards long by 20 yards wide, near the west bank of the Iowa River, which at this point is within the city limits of Iowa City. In the process of its formation during the past several years, this flat has become thickly grown up with slender willow trees, 15 to 20 feet in height. Long, heavy water grass and rushes thickly cover the area between the trees.

On Wednesday, April 2, 1919, at 6.40 A.M., before the sun was up, I visited this place, among others, in my search for birds. The morning was cool and partly cloudy, with a light southerly wind. Upon approaching the willows, the sound produced by the great flock of singing Blackbirds attracted my attention, and as I drew nearer it became louder and louder until, at the very edge of the willow-covered mud-flat, the noise seemed almost deafening. The trees, grass, and reeds were literally black with the birds. Both males and females were present, and now and then a mating pair could be observed.

At irregular intervals of from a few seconds to a minute or more, groups of from 25 to 100 birds rose in the air and flew slowly away. At the moment of leaving, the whole flock in the trees and grass suddenly ceased singing for an instant



and then as suddenly began again. The sudden and uniform cessation of song at these periods was particularly noticeable. It was not until several such groups had left the willows that any diminution in the number of those remaining could be observed, so numerous were the birds. Judging by the size of these groups which thus left from time to time, I estimated—very conservatively, I feel sure—that at the beginning of my observation more than 5,000 Red-winged Blackbirds were present on this little willow-covered flat.

By 7.15 A.M. only a few hundred birds remained. Fewer and fewer of the flock

returned each succeeding evening, so that, after two or three days following this observation, only about the normal number of birds was to be found at any time in this congregating-place.

No doubt the abundance of Red-winged Blackbirds, as well as many other of our common birds, is to be attributed, in part, at least, to the widespread influence of the various Audubon and other bird-protection societies scattered here and there over the country, as well as to the dissemination of bird-protection propaganda.—DAYTON STONER, *Iowa City, Iowa.*

## THE SEASON

### XVIII. December 15, 1919 to February 15, 1920

BOSTON REGION.—The winter of 1919-20 will long be remembered in eastern Massachusetts as a real, old-fashioned winter—periods of intense cold alternated with snowstorms. After January 9, the ground was covered by an increasingly deep blanket of snow; twice the temperature fell to 20 below, and on seven days in January the thermometer registered below zero. True to the typical New England winter, there was a January thaw (on the 27th; Temp. 50°) and a blizzard on February 5.

During this arctic weather we were visited by many northern birds. Evening Grosbeaks appeared early in January, and, two weeks later, Pine Grosbeaks began to arrive and increased in numbers until, in mid-February, the flocks were nearly as large and as numerous as during the last big flight in 1906-7. These birds settled at once in the same trees that they fed in thirteen years ago, so promptly, indeed, as to suggest that when these northern birds come yearly (as the Evening Grosbeaks do nowadays), it is their quick recognition of good feeding-grounds rather than their memory of special localities which brings them back to the same spots year after year.

Pine Siskins and Redpolls have been numerous all winter, in flocks of fifty birds or more sometimes, feeding most often on the seeds of the gray birch. Well-fruited birches, where these birds congregate, can be recognized at a glance, for they are soon surrounded by a brown area, so thickly are the bracts of the catkins scattered on the snow. Many Tree Sparrows and Goldfinches, and a few Juncos and Song Sparrows, have wintered here, and Blue Jays and Chickadees have been present in normal numbers.

In contrast to the roving flocks of Redpolls and Siskins, Song Sparrows spend the winter alone, or, at most, with one or two companions. Their winter quarters are always near dense shrubbery, or perhaps a pile of branches, where they are sheltered from wintry winds. Even a gale, filtering through the interstices of such a thicket, must lose its force when broken into innumerable draughts of air and become, toward the interior, progressively milder until in the midst there is a space where a bird can find a safe, calm roosting-place. Our forefathers applied this principle when they made their tin lanterns, punctured with countless, tiny holes.

The ground on which the Bluebirds

must find their food when they come north next month is now covered by two feet and more of the hardest ice and snow.—WINSOR M. TYLER, M.D., *Lexington, Mass.*

NEW YORK REGION.—These two months cover comparatively unchanging conditions of winter bird-life. Nevertheless, as is generally recognized, traces of the fall migratory movement may frequently, if not always, be observed later than December 15. Birds are often present at Christmas time which will be absent later in the winter; or they may even linger into the first week of January and then move on. Also, beginnings of the spring migratory movement may sometimes be noted as early as the middle of February.

The present season, a snowstorm on Christmas Eve ushered several weeks of white, cold, monotonous winter to the interior of the west end of Long Island. During this period the ground was almost continually, though thinly, snow-covered. Even the commonest winter birds were remarkably scarce. An unusually large flock (about 25) of Meadowlarks was noticed from the train, January 7, and as none was seen again during the month, the species probably left the vicinity about that date. Beginning ten days later, came recurrent storms, with general temperature gradually rising. The somewhat changed conditions were accompanied by an increase in Tree Sparrows and Juncos. One or two White-throated Sparrows appeared at Garden City. Four Field Sparrows appeared again January 22, in a vacant lot within the town, grown to tall grass (*Andropogon virginicus*), where half a dozen had been found December 25.

Following a three days' northeaster, with drifted snowfall the first week in February, on the 7th a small flight of Red Crossbills was noted and an increase of Horned Larks on the 'plains' near Garden City. February 8, a flock of about 20 Evening Grosbeaks was reported at Forest Hills (one, disabled, brought to the New York Zoölogical Park from there.—L. S. Crandall). On the 8th and 12th,

Tree Sparrows had become generally abundant, Redpolls (Garden City, February 8 and 14; Forest Hills, February 12) and Goldfinches, previously absent, appeared scatteringly (3 or less together); on the 12th, Juncos were up to their usual number for the first time this winter, and Horned Larks were found inland at localities which they ordinarily do not visit. More remarkable is the presence on that date of about 15 Snow Buntings and a Lapland Longspur, feeding with Horned Larks inland, at Queens.

In short, there was a well-marked late winter wave of birds, throughout traceable with reasonable certainty to storms and snow. In the Field Sparrow and likely the White-throat, movement was probably very local, to a sheltered spot in town; in the case of the Larks, Buntings, and Longspur (all three of which had been present earlier in the winter at the ocean shore 8 to 9 miles south at its nearest point, and the first two of which only, in no great numbers, were found by observers at the shore on this date), there was more extensive movement, away from storm tides and coastal exposure; in the case of the Redpoll, and the Tree Sparrow as certainly, migration from more boreal localities.

At expense of a general summary, space has been given in this report to detailed, more or less personal, observations in one section of the New York region, because fluctuation of winter bird-life was unusually well marked and easily traceable. Not infrequently there is a late winter movement of uncertain relationship to the northward movement immediately following. Storms are to be expected, with rising temperature after the dead of winter, but in this case at least the wave of birds seems to have had no relationship to a spring movement, unless possibly species which migrate early, driven out by the last kick of winter, rebound on its retreating steps. Even a considerable flock of Red-winged Blackbirds, February 12 (Englewood, N. J., both sexes.—L. Griscom), should rather be considered waifs from more inhospitable territory



than spring arrivals, as also a flock of 11 Cowbirds which visited Bronx Park, February 5 (preceded by a single female, February 3, leaving a few emaciated stragglers, February 10.—L. S. Crandall).

On the afternoon of February 8 the clear, incisive song of a Meadowlark was heard, repeatedly ringing out over the snow at Garden City, though none had been seen for a full month past.—J. T. NICHOLS, *New York City*.

PHILADELPHIA REGION.—An 'old-fashioned winter' arrived early in December, and, up to this time, February 11, shows no sign of leaving. There have been few days this winter that there was not some snow on the ground. Rainstorms, ice-storms, hail-storms, and snow have followed each other in rapid succession. On February 4 a three-day storm, which at times assumed the proportions of a genuine blizzard, came, leaving 8 inches of snow and hail on the ground, which, owing to the high wind, drifted to considerable extent, tying up traffic and delaying train service. Seldom, indeed, has a winter produced more beautiful effects in so great profusion: Ice-storms when all nature was wrapped in a diamond-studded robe, only to be supplanted in a day or so by a thick blanket of soft, clinging, wet snow, which, quickly melting under the bright sun, left all brown and bare for a short space, then a heavy fog with a temperature just cold enough to freeze coating everything with a frosty sheet of frozen mist.

At Seaside Park, N. J., December 21, a few days after the first tight freeze, when Barnegat Bay was found to be frozen from shore to shore, several flocks of Canada Geese, about 60 in all, were noted flying over the Bay, high in the air, heading south. A dozen Black Ducks and as many more Scaups were sitting on the ice, well out from the shore. These, together with 200 Herring and Ring-billed Gulls, also on the ice, were about all the birds observed on the Bay. A single Snow Bunting was found on the ocean beach; in a growth of cedars a Red Crossbill.

Doubtless, the winter has taken a more than usual toll of bird-life, yet few dead birds have been found. However, it must be remembered that such objects are meat for the starving and do not lie around very long. It is interesting to discover just where the hungry host of birds procure their food under such adverse weather conditions. Starlings and English Sparrows resort in large numbers to the city dumps. Tree Sparrows, Juncos, and White-throated Sparrows, in mixed flocks, seek the open fields where the tall weeds extend above the snow. Song Sparrows, singly and in pairs, are found about the open springs and streams, gleaning close to the water's edge. A Purple Finch chirps in a tangle of honeysuckle, and you discover him feasting on the dried berries. A Cardinal looking much out of place in the top of a tulip poplar, is dining on the few remaining seeds. A Ring-necked Pheasant is flushed from his breakfast of burdock seeds, leaving the prickly husks scattered about on the crusty snow. Groups of Crows stand and walk about the edge of the tidal streams, waiting for low water and a streak of bare mud where food may be had. On January 11, while watching a group of winter birds, which in this case was composed of 4 Brown Creepers, 1 Red-breasted Nuthatch, and 2 Golden-crowned Kinglets, the Creepers suddenly changed their usual method of tree-trunk investigation and flew from one pine-cone to another, apparently seeking the hibernating insects and larvæ lodged there, as they only chose the old, black, discolored cones. This may be a common practice when the birds are working among pines, but, nevertheless, it is of interest.

The rarer northern Finches continue to be the most interesting feature of the season. In addition to those mentioned in the October and November report, Redpolls and Evening Grosbeaks have been reported at several localities, the latter mostly individual birds at widely separated points.

There appears to be an unusual scarcity of Winter Wrens, and Northern Shrikes seem to be entirely absent in this district.

Truly, the descendants of the Rock

Pigeon are becoming thoroughly domesticated. A short time ago one was seen to fly up from the street and settle on a passing electric car; the car continued on down the street, the bird sitting there with the utmost unconcern, and it was still in the same position when lost to view.

On February 9, while crossing the Delaware River on a ferryboat, a Duck Hawk was observed. This bird darted down after a Sparrow near the ferry-slip, but the Sparrow escaped by a narrow margin and ducked into the ferry-house. The Hawk then turned and flew out to the middle of the river where it met another Hawk of the same species. A friendly sparring-match took place between them, accompanied by a series of cackling notes. Then, as if by mutual agreement, they flew off rapidly up the river toward a grain elevator, where they dashed into a flock of Pigeons, with what success could not be determined as the birds at this time were too far distant.—JULIAN K. POTTER, *Camden, N. J.*

WASHINGTON REGION.—Notwithstanding protracted cold weather, the ornithological happenings about Washington during December, 1919, and January, 1920, were little out of the ordinary. Birds, as a whole, were about as numerous as usual, but, in spite of the severe winter, comparatively few of the rarer northern birds put in an appearance. However, the Northern Shrike was noted in the northern part of the city of Washington, on Jan. 26, 1920, by Dr. G. W. Field, and the American Crossbill at Mount Vernon, Va., on Dec. 27, 1919, by Messrs. Wetmore, McAtee, and Preble.

On the other hand, the Ruby-crowned Kinglet, which is a rare and irregular winter resident about Washington, was seen at Mount Vernon, Va., on Dec. 27, 1919. A Gadwall was reported on Dec. 27, 1919, also, by the same observers; a King Rail on Alexander Island, Va., Dec. 4, 1919, by Mr. E. A. Preble; a Long-billed Marsh Wren along the Anacostia River, December 21 and 28, by Mr. Francis Harper, are likewise worthy of record.

The European Starling has been fairly common about Washington and the neighboring country, appearing in many places in flocks, and, apparently, is more numerous than for two or three winters past. Near Falls Church, Va., on Jan. 25, 1920, a flock of 20 was observed by Mr. W. W. Diehl, eating persimmons. The birds obtained the fruit by pecking it from the branches and allowing it to fall, then flying down and eating it on the ground.

Several thousand Ducks of several species, mostly Golden-eyes and Scaups, have remained in the Potomac River, chiefly below Alexandria, during the entire season, some of them ascending as far as Washington during the milder weather. Apparently they are fully as numerous as they were last winter.

A large roost of Crows in the northern outskirts of the city, near Brookland, has been fully occupied during the present winter, and is probably as large as it has ever been. It accommodates practically all the Crows that feed in the vicinity of Washington and is estimated to contain at present some 200,000 birds.—HARRY C. OBERHOLSER, *Biological Survey, Washington, D. C.*

KANSAS CITY REGION.—Unbroken periods of zero weather of more than a week or ten days' duration are unusual in this immediate region. The current period, up to February 1, has been marked by over five weeks of almost continuous cold, during which time two severe ice-storms developed, making conditions intolerable for the less hardy species. The Missouri River, though at its usual low winter stage, has fortunately remained open in the main channel, affording congenial winter quarters for numbers of Mergansers (at least 40 in Jackson County), 2 Black Ducks, and a solitary Loon. These birds have been under observation since the middle of December, and have afforded ample opportunity to verify the fact that Mergansers remain mated throughout the winter. Two Bald Eagles, one an adult and the other in immature plumage, have been frequently seen in the same general



region with the water-birds. These are the first Eagles to appear in this region for many years. The bottomland thickets and timbered shelters do not harbor the smaller birds in their usual winter abundance. Save for Pine Siskins, Goldfinches, Juncos, and a few large flocks of Crossbills, the Fringillidæ are represented by stragglers only.

The event of the winter has been an unprecedented invasion of Bohemian Waxwings. One flock of about 175 individuals, from which four specimens were taken, was noted in the bluff region of eastern Jackson County, while flocks aggregating 600 birds have been reported from Holt County (Dankers). A species of no less local rarity, the White-winged Crossbill, has also been seen on several occasions. The writer has seen two in a flock of Crossbills, and others have reported seeing specimens.

The arrival of the Bohemian Waxwings in early January was coincident with a noticeable southern movement of Canada Geese, Meadowlarks, Robins, and Bluebirds. The birds had no doubt been spending the winter in the up-river country not far away. The first Short-eared Owls of the winter were found during this period. They, too, had evidently only just moved in, as their roosting-ground in high grass was only sparsely littered with pellets. A few Mourning Doves were found during the second week of the month making their headquarters in a small patch of hemp. Numbers of Siskins and Crossbills were also feeding on the fat seeds, and there could hardly have been a sufficient supply to last this crowd another week.

The first week in February was warm, and as is usual at this time, when no storms threaten, the early restless movements of north-bound water-birds was witnessed. Robins and Bluebirds were also noticeably more numerous.

The writer confesses to no great familiarity with the Grebes, yet this will hardly serve as an excuse for calling the Horned Grebe an Eared Grebe, as was done in the last letter from this point. It should have been stated there that the former bird had

been added to the local list, and that it breeds occasionally in Nebraska.—HARRY HARRIS, *Kansas City, Mo.*

MINNESOTA REGION.—The two-months period covered by this report opened on the morning of December 15 with a temperature of  $-10^{\circ}$  at Minneapolis and  $-24^{\circ}$  at Duluth. This weather continued for several days, with almost daily or nightly snowfalls. Somewhat milder weather prevailed during the final week of December, with two or three days when the snow melted a little at noon and settled rapidly under high, dry winds, but the new year opened with another cold 'snap,'  $-12^{\circ}$  at Minneapolis on the 1st and  $-17^{\circ}$  on the 2d. The month continued cold and snowy, with many subzero days, interrupted only occasionally by warmer, sunny days, the warmest being on the 29th when a maximum of  $38^{\circ}$  was recorded at Minneapolis. February has been continuously cold thus far, with a temperature of  $-18^{\circ}$  on the 14th and  $-19^{\circ}$  on the 15th at Minneapolis. The winter has been steadily cold, with no very marked January or February 'thaws,' and yet with no exceptionally low temperatures. An unusual amount of snow has fallen, especially in the northern part of the state. For this reason it has been a hard winter for the birds, particularly the ground-feeding and weed seed-eating species.

Several of the Museum's correspondents have commented upon the scarcity of birds this season, while others seemingly have considered conditions as to resident species about normal. On the whole, it would appear that fewer birds have been noted than last winter, which, however, was an exceptionally good year considered from the observer's standpoint. But, compared with two years ago (winter of 1917-18), when all bird-life, including the commonest species, was at the lowest ebb known here, there has been a marked improvement.

A notable feature of the winter, in spite of the continued low temperature and deep snow, has been the presence in the state of a considerable number of birds

commonly considered as only 'half-hardy.' Most of the reports of such species have come from the southern half of the state, but a few are from localities much farther north than heretofore recorded. More and keener observers and a more active campaign in search of winter bird-notes may be the real explanation of these seemingly exceptional occurrences. Brown Creepers have been present all winter in the southern half of the state, and O. J. Murie reports that some individuals of this species are wintering as far north as Moorhead, on the Red River of the North, only a little south of latitude 47°. Tree Sparrows, Juncos, Goldfinches, and Purple Finches have been reported from the southern portion of the state; Red-headed Woodpeckers from Red Wing (Mrs. Green and Miss Densmore), St. Paul (Thompson), Cannon Falls (Swanson), and Rochester (Mrs. MacCarty); Golden-crowned Kinglets from Martin County (Dr. Luedtke), and Fillmore County (Dr. Hvoslef); a Robin at Moorhead, December 12 (Murie), and one at Minneapolis December 27 (Zeleny); two Flickers at Moorhead January 8 (Murie); a Rusty Blackbird at Fosston, far up in the Red River Valley, January 2 (Miss Torgerson), and three wintering at Pipestone (Peterson); a Red-winged Blackbird at Fosston January 2 (Miss Torgerson); and Bronzed Grackles at Duluth, December 18 (Green) and at Fosston in January (Miss Torgerson). Cardinals have been wintering at Red Wing (Miss Densmore), La Crescent (Whit Harrison), and Lanesboro (Dr. Hvoslef). It should, perhaps, be stated that competent observers, though greatly increased over former years, are still so few in number and so widely scattered over Minnesota's more than 84,000 square miles, that these notes can only be regarded as fragmentary and merely suggestive of actual conditions.

Of winter bird visitants only brief mention will be made here. Goshawks have been reported from only four localities. There has, however, been a considerable influx of Snowy Owls, as reports have been received from nineteen stations

in all parts of the state. Of Great Northern Shrike there are only four records, widely scattered. An early and extensive incursion of Bohemian Waxwings has been an interesting feature of the present winter. In a few places they have remained constantly and been fairly numerous, as at Moorhead (Murie). Pine Grosbeaks have been reported several times, none farther south than Minneapolis. Redpolls, as usual, have been common all over the state. Evening Grosbeaks have been reported from only nine localities, all in the northern two-thirds of the state. None have yet appeared in the southern portion, where they were, in former years, a frequent and common winter visitant. At Wadena (Mrs. Bigelow), Staples (Mrs. Young), and Brainerd (Mrs. Thabes)—localities near together in the central part of the state—it has been present for some time in large flocks. Apparently, the Evening Grosbeak is no longer the regular visitant in large numbers throughout Minnesota that it was twenty-five to thirty years ago. It would appear from the increasing number of New England records that the principal southward movement of the species is now directed toward the North Atlantic States. The box elder trees, upon the seeds of which this Grosbeak feeds so extensively in winter, and which formerly lined the streets of most Minnesota cities and towns, have largely died out or been removed. But as this tree is here everywhere abundant in the wild state, this fact should not have any material effect upon the food-supply, though, possibly, it would remove from easy observation a considerable number of the birds and make them seem scarcer than they really are.—THOS. S. ROBERTS, *University of Minnesota, Minneapolis, Minn.*

DENVER REGION.—The weather conditions in this region during the past two months have been exceedingly variable—extreme cold in December and mild in much of January and February. There has been no prolonged condition of deep snow, and it appears to the writer that with



these circumstances there has been a scarcity of birds, a scarcity showing itself more in the number of individuals than in the number of species.

It would appear that under such mild conditions, with the scarcity of snow, many birds can find sustenance almost anywhere in the outskirts of the city and in the immediately surrounding country, and therefore do not come into the city and its parks as abundantly as they do when snow covers the low weeds, etc., in the suburban districts. There has been noted a somewhat unusual number of Hawk species. Thus, on Christmas Day, a Sparrow Hawk, a Prairie Falcon, and a Richardson Merlin were seen in Denver, which, together with the presence of Owls, may help account for the small number of Juncos, etc., seen in the city. There is no doubt but that these predaceous birds were probably also more common in the territory immediately surrounding Denver. It is still a source of wonder that Clark's Crow should remain in the vicinity of Denver all winter; a pair has been seen several times in the city since December 15. Both of these birds had very dirty plumage, probably from the dirt and smoke of the city; in fact, they looked almost black, and one identified them, at a distance, only by their white markings, as seen in flight, and their characteristic call. While there is no way of settling the question, it seems to the writer that these Clark's Crows are but a single pair, seen at different times and in different places. These birds were last seen in the neighborhood of my house on February 15.

The season now under consideration can be compared with that of past years by taking any given day and noting the birds seen at such a time. The Christmas Census data collected during the past eight years will be as representative as that of any other day of the same period. Thirty-seven different species have been seen on Christmas Days of the years 1912 to 1919 (inclusive). There are 8 species which have been seen yearly on this day (or have been present at least 75 per cent of the days): Ring-necked Pheasant, Orange-

shafted Flicker, Desert Horned Lark, Magpie, Red-winged Blackbird, Tree Sparrow, Pink-sided and Gray-headed Juncos. In other words, one can reasonably count on seeing these 8 species on almost any day in the winter-time, in the vicinity of Denver. On the other hand, 14 species were observed but once on Christmas Day during these eight years; they are: Great Blue Heron, Mourning Dove, Marsh Hawk, Saw-whet Owl, Screech Owl, Downy and Lewis's Woodpeckers, Long-crested and Woodhouse Jays, Yellow-headed Blackbird, Redpoll, Slate-colored Junco, Brown Creeper, and Townsend's Solitaire. An examination of this list of 37 species shows that 8 are either uncommon at all times or very erratic in their visitations; these are: Richardson's Merlin, Saw-whet Owl, Redpoll, Slate-colored Junco, Brown Creeper, Townsend's Solitaire, Lewis Woodpecker, and Yellow-headed Blackbird. Furthermore, 3 species, Great Blue Heron, Mourning Dove, and Sparrow Hawk, are prone to be here only during mild winters, and, contrariwise, 2 species are more apt to visit this neighborhood during severe winters, that is to say, the Redpoll and Cassin's Finch. Seven others of these 37 species one can possibly see on any winter day in this area, but, in truth, it must be said that one might have to institute a patient search for them in suitable places in order to be successful; these are: Marsh Hawk, Prairie Falcon, Screech Owl, Downy Woodpecker, Song Sparrow, and Long-crested and Woodhouse Jays. Many others of these 37 species have been observed here in mid-winter, but on two or three occasions only. In all probability these birds were present each year on Christmas Day, but lack of time or adverse weather conditions, or both, prevented a search thorough enough to reveal them. In this list may be included American Rough-legged Hawk, Long-eared Owl, Hairy Woodpecker, Meadowlark, Great Northern Shrike, Shufeldt's, Mountain, and Grey-headed Juncos, and Long-tail and Mountain Chickadees. The 4 species occurring in the greatest abundance in this season are Red-winged

Blackbird, Desert Horned Lark, Magpie, and Tree Sparrow. Of these 4, it can readily be seen that 3 are residents throughout the year, and 1 a winter visitor only. On Christmas Day, 1912, only 5 species were seen, due to inclement weather preventing an extended search, while on the same day, in 1919, 19 species were seen, notwithstanding that the early part of the month of December had been extremely cold. While weather conditions make a difference in the lists gathered, yet it seems to the writer that the thoroughness and extent of search make a greater difference. One can say from the brief review of this season's bird-life, during the past few years, that it was, in 1919, somewhat out of the ordinary. Thus one learns that of the 37 species seen during eight years, seven were noted for the first time; why this happened to be one cannot say. Perhaps it was pure luck. This large number of birds new to that date, together with the fact that only once before were as many as 19 species seen on Christmas Day, gives color to the idea that the season just passed has been out of the ordinary.—W. H. BERGTOLD, *Denver, Colo.*

SAN FRANCISCO REGION.—Wintry weather in the bay region lasted from Thanksgiving Day until January 9, with occasional warm days to relieve the monotony of cold north winds. Unusual bird records are expected when such cold visits us, for it means that birds are driven down from the higher altitudes where the weather is much more severe. This may account for the numerous records of Sierra Crossbills which have been sent in from Carmel, Pacific Grove, Golden Gate Park, Berkeley, and other points, as also for the early flocking of Western Robins in this vicinity.

All the winter visitants have been noted this year, with the exception of the Golden-crowned Kinglets, which were surprisingly

abundant during last winter, but seem to be missing so far this year. In Berkeley, Juncos, and Pine Siskins have been present in very large flocks, Bluebirds have been seen more often than usual, while Pipits, Varied Robins, Red-breasted Nuthatches, and Western Winter Wrens have been quite common. On a certain brushy hillside to the south, a little coterie of Western Gnatcatchers has remained since October, while farther north a House Wren, more hardy than most of its tribe, has been resident for the third winter.

After January 10 the weather was very mild, so that now (February 1) wild currant is in full bloom and almond trees, Japanese quince, and many blossoming shrubs are radiant with color. The Anna Hummingbird is in fine feather as he buzzes about these blossoms. He still has them to himself for a few days until the Allen and Rufous Hummers arrive to compete with him for the supply of honey. Many of the permanent residents are singing freely. In the cañons, California Thrashers, Titmice, Vigors Wrens, San Francisco Towhees, Hutton Vireos and Flickers are all tuning up, while the Meadowlarks make the open fields resound. The Nuttall Sparrows are withdrawing from the flocks of Intermediate Sparrows and sing constantly near last year's nesting-sites.

On Lake Merritt, in Oakland, the Ducks, Gulls, and Grebes make a wonderful show. Pintails and Canvasbacks predominate at this season, the former on the lawns and the latter on the lake. Baldpates and Shovellers wander about on the grass like chickens, while Lesser Scaup and Ruddy Ducks, Eared Grebes, and Coots add their forces to those of the Canvasbacks. Golden Eyes, Bufflehead, and Green-winged Teal are present also, and many Killdeer feed along the shore. On Lake Merced, in San Francisco, a flock of a dozen Whistling Swans have delighted the hearts of bird-lovers in this region.—AMELIA S. ALLEN, *Berkeley, Calif.*

# Book News and Reviews

BULLETIN OF THE ESSEX COUNTY ORNITHOLOGICAL CLUB. Vol. 1, No. 1, Dec., 1919. Salem, Mass. 55 pages; 1 line-cut.

The Essex County Ornithological Club, organized April 10, 1916, presents in this, its first bulletin, a history of the Club, a record of its regular and field-meetings, together with papers on 'The Identification of Hawks in the Field' by Charles W. Townsend; 'Coöperative Effort in Bird-Study,' by Arthur A. Osborne; various notes and an account, by Ralph Lawson, of 'Thirteen Ipswich River Bird Trips' in the first of which the Club had its origin. The story of these party trips bespeaks the good fellowship born of community of interests and shows how even an annual function may work its influence throughout the year.

The membership roll of the Essex County Ornithological (why not Bird?) Club and the record of its activities indicate that it has before it a long and useful life.—F. M. C.

THE RAPTORIAL BIRDS OF IOWA. By BERT HEALD BAILEY, M.S., M.D. Bulletin No. 6, Iowa Geological Survey. Des Moines, 1918. 238 pages; numerous maps and illustrations.

The economic status, general habits, distribution and bibliography of the forty species and subspecies of Hawks and Owls recorded from Iowa are here presented at length. There are photographs of, for the greater part, excellently mounted specimens in the Coe College Museum, of which Dr. Bailey was curator, and maps recording the distribution in Iowa of the birds treated. The whole forms an admirable monograph of a group of birds of great economic importance, concerning the value of which the public cannot be told too often.

Dr. Bailey unfortunately did not live to complete the manuscript of this work, and it was brought to completion and edited by his colleague, Miss Clementina Sinclair Spencer.—F. M. C.

BIRD-HOUSES AND NESTING-BOXES. By EDWARD HOWE FORBUSH. Circular No. 10, Massachusetts Department of Agriculture. 28 pages; numerous illustrations.

OUTDOOR BIRD-STUDY. HINTS FOR BEGINNERS. By EDWARD HOWE FORBUSH. Circular No. 12. Massachusetts Department of Agriculture. 51 pages; numerous illustrations.

Here are two publications of practical value to students and lovers of birds. Mr. Forbush knows his audience by actual contact and has in a marked degree the gift of meeting its wants. We hope that these two bulletins will have a wide circulation, not only in the state which we have to thank for them, but throughout the Union.—F. M. C.

THE BIRDS OF RED DEER RIVER, ALBERTA. By P. A. TAVERNER. From 'The Auk,' XXXVI, 1919, pages 1-21; 248-265; pls. 4.

THE BIRDS OF SHOAL LAKE, MANITOBA. By P. A. TAVERNER. 'The Ottawa Naturalist,' XXXII, 1919 pages 137-144; 157-164; XXXIII, 1919, pages 12-20.

The first of the above-mentioned papers is based chiefly upon field work between June 25 and September 26, 1917, when a voyage of nearly 200 miles was made by Mr. Taverner and his assistant, Mr. C. H. Young, down the Red Deer River. Eleven camps were established at different places as bases from which to work the adjoining territory. There is an excellent description of the region traversed and a well-annotated list of 194 species.

Mr. Taverner's studies of Shoal Lake birds were made by himself and Mr. Young for a short period in the spring and fall of 1917 and were supplemented by Mr. Young's observations and collections from April 23 to October 2, 1918. Access to the notes, published and unpublished, of other observers gives a total of 212 species for the district.

It is difficult for the reviewer to recognize in the photograph on page 139 of the far-stretching, boulder-strewn shore



of Shoal Lake in 1917-18, and doubtless today, any resemblance to the Shoal Lake he knew in 1901, with a margin of quill-reeds, so wide that in places one could not see open water from the shore of the lake. Since that date, Mr. Taverner writes, the water in the lake has fallen from 8 to 10 feet and the shallow margins in which the quill-reeds grew and countless Coots, Grebes, and Yellow-headed Blackbirds nested are now "broad reaches white with alkali crystals." Mr. Taverner adds: "Of the vast numbers of birds that once threaded the mazes of the marsh, practically none remain but the few that are restricted to the borders of the rapidly disappearing pools back from the shore." The transformation is as sad as it is interesting.—F. M. C.

#### The Ornithological Magazines

THE AUK.—The first thirty-two pages of the January number comprise 'In Memoriam: William Brewster,' by Henry W. Henshaw, followed by other articles dealing with Mr. Brewster. His photograph, reproduced as Plate I, is excellent, and such of the younger ornithologists as knew Mr. Brewster comparatively little personally will find interest and inspiration in the account of his life. A 'William Brewster Memorial' has been placed in the hands of the American Ornithologists' Union, the income from an established fund of \$5,000 to be used in recognition of "the most important work relating, in whole or in part, to the birds of the Western Hemisphere," with the 'Brewster Memorial Medal' and an honorarium. We have here some slight tribute by American ornithologists to the passing of a great leader.

In 'Sequestration Notes,' by J. Grinnell, from observations of the Audubon Warbler and Ruby-crowned Kinglet, it is concluded that their call-notes functioned to keep the birds apart, give each individual monopoly in a certain feeding-area, to the common advantage. Many field students will call to mind similar observations, and the conclusion is so logically

drawn as to carry conviction. It may only be questioned whether such calls, *per se*, have special 'sequestration' significance, or whether the ordinary call-note, with a more general advertisement-identification significance, has sequestration value in some cases. At the very least we have here a tangible hypothesis, a valuable asset in pursuing the elusive subject of bird-language. In 'The Occult Senses in Birds,' H. H. Beck suggests a food-finding (example Vultures) and mate-finding sense similar to the homing sense, already the subject of so much interesting study and speculation. There is obvious advantage in designating certain inexplicable phenomena by these terms until further analysis of them is possible.

In 'In Memoriam: Lyman Belding' (illustrated by a photograph, Plate III), by A. K. Fisher, quotations from a manuscript autobiographical sketch which Belding completed shortly before his death, are of great interest. He was eighty-eight years old at the time of his death, and his memories of wild life in the early days are correspondingly valuable.

There is the usual quota of papers more or less faunal in nature: from the Catskill Mountains, Cobb (descriptive appreciation of a rich bird country); from Texas, Griscom (critical notes supplementing earlier published lists); from Colorado, Lincoln (an annotated list of the birds of the Clear Creek district); from South Carolina, Wayne (remarks of interest on a few species). Farley presents details of the life of Sanderling and Red-backed Sandpiper while wintering unusually far north, at Plymouth, Mass. 'Bachman's Warbler breeding in Alabama,' by Ernest G. Holt, is accompanied by a photograph of nest and eggs of this rare bird. A critical study of the races of the Canada Goose leads J. D. Figgins to suggest that a large (*canadensis*) and small (*minima*) species alone be recognized, other specimens to be considered as hybrids. New species and subspecies are described by Cory, a race of the Killdeer breeding in Peru, by Chapman. We may now consider our Killdeer the northern representa-

tive of a South American bird, which fits better with its habits than to associate it with our highly migratory Plovers. Loomis has a paper on a matter of Petrel nomenclature. Palmer chronicles the thirty-seventh meeting of the A. O. U.

In general notes there is the usual variety of unusual occurrences: S. C. Arthur reports that a captive Blue-winged Teal, with the white marking characteristic of the recently described southern race, after a time lost this marking by moult. Miller and Griscom refer to Mourning Doves breeding in southwestern Maine, supposed to be Wild Pigeon; an old pigeon-hunter, in fact, did not credit their identification of these birds as Doves. R. Latham recounts an instance of Chimney Swifts resting in a heavy growth of brush; one was seen eating elder-berries, but, in his opinion this was merely incidental, the spot being used as a roost. W. L. McAtee presents evidence of birds being diverted from depredations on fruit by abundance of periodical cicadas on which they were feeding. —J. T. N.

THE CONDOR.—Of the eight general papers in the January number of *The Condor*, Mrs. Bailey's 'Return to the Dakota Lake Region' and Henshaw's 'Autobiographical Notes' are continuations of articles in the previous volume. The present chapter of the biography is especially interesting since it reviews Henshaw's active field-work in Colorado, Arizona, and California, and his early acquaintance with Baird, Bendire, Merriam, and Nelson. A brief sketch of 'Edward Garner, a Pioneer Naturalist,' taxidermist of Quincy, Plumas County, Calif., is contributed by H. C. Bryant, who states that Garner's collection of birds was exhibited at the Panama-Pacific Exposition in 1915 and is now deposited in the Quincy High School. Eight of the specimens which form the basis of important local records are specially mentioned.

The 'Importance of the Blind in Bird Photography,' illustrated by six figures, is discussed by Frank N. Irving, who gives directions for the use of beginners in this branch of field-work. An account of the 'Rusty Song Sparrow in Berkeley and the Return of Winter Birds' is given by Mrs. Amelia S. Allen. A Yakutat Fox Sparrow, which had been banded, left on April 21, evidently to spend the summer in Alaska, but returned to the same spot in Berkeley on November 3, thus furnishing another interesting record of the habit of certain birds to return to the same place after a long migration. 'A Peculiar Feeding Habit of Grebes,' is described by Wetmore who has found quantities of feathers in the stomachs of these birds. He suggests that the habit of swallowing feathers is developed mainly in species which feed on fish, and that the feathers "act as strainers that prevent the passage of bones and scales into the intestine until they have been properly digested."

In 'Notes on the Limicolæ of Southern British Columbia,' Allan Brooks lists 38 species that have been recorded from this region and makes a plea for more attention to this group of birds, which promises much in advancing our present knowledge of the distribution and migration of several species. A 'Description of a New *Otocoris* from California' is given by H. C. Oberholser, who bases the new form (*Otocoris alpestris sierræ*) on a specimen collected by A. S. Bunnell, June 13, 1906, at the head of Pine Creek in Lassen County.

Among the brief notes are four remarkable records of Clark's Nutcracker showing the occurrence in 1919 of this mountain-loving species near Indio, below sea-level on the Colorado Desert, in October, on board a steamer at sea between Los Angeles and San Francisco in September, and at Carmel and Point Pinos, in Monterey County, in November.—T. S. P.

# Bird-Lore

A Bi-Monthly Magazine

Devoted to the Study and Protection of Birds

OFFICIAL ORGAN OF THE AUDUBON SOCIETIES

Edited by FRANK M. CHAPMAN

Contributing Editor, MABEL OSGOOD WRIGHT

Published by D. APPLETON & CO.

Vol. XXII Published April 1, 1920 No. 1

## SUBSCRIPTION RATES

Price in the United States, one dollar and fifty cents a year; outside the United States, one dollar and seventy-five cents, postage paid.

COPYRIGHTED, 1920, BY FRANK M. CHAPMAN

Bird-Lore's Motto:

*A Bird in the Bush Is Worth Two in the Hand*

RECENT experiences have impressed us anew with the vagueness with which most people see birds. This is due to hasty, inadequate, and careless observation, to ignorance of what may be called the topography of a bird, to a lack of training in the art of seeing things accurately and in detail, and to the difficulty with which most birds may be studied at short range.

It is, of course, the last reason which has prevented birds from becoming more widely known. But it is the very elusive-ness of birds which makes bird-study so fascinating. They appeal not only to our desire to know, but to our inherent love of the chase. Surely no bird student who has experienced the thrill of following strange calls and songs would ever want to pursue his study in an aviary!

With some exceptions, therefore, we may accept the shyness of birds as a lasting characteristic and we may accept it also as a characteristic which demands care and patience on the part of the field-student if he hopes for success. In this fact, indeed, we have no small part of the educational value of bird-study, even when bird-study means merely naming birds out of doors.

This study should, when possible, be preceded by a sufficiently detailed examination of the bird to enable one to become familiar with the meaning of the terms which are used in descriptive ornithology. 'Wing-bars,' 'primaries,' 'secondaries,' 'coverts,' 'back,' 'rump,' 'breast,' 'crown,'

'flanks,' 'shoulder,' 'bend of the wing,' etc., should all become definite terms conveying an exact meaning. Failing access to specimens, to Pigeons, or even Chickens in the flesh, examine carefully the diagrams of birds which are given in most bird books. How can one hope to describe a bird with any degree of exactness if one is neither familiar with the proper descriptive terms nor knows how to apply them? Simply because we know that a bird has a head, body, wings, tail, and feet, it does not follow that we are prepared to describe accurately its color-pattern any more than we could accurately describe an airplane because we know that it has planes, an engine and fuselage.

Definite knowledge of the plan of a bird is a great aid to correct observation in nature. With such knowledge we shall be far less likely to describe the male Red-winged Blackbird as 'red-breasted,' to say that a Flicker has a white back, or a Myrtle Warbler a yellow breast, while the blue birds with red heads, green wings and pink tails would become nearly, if not quite, extinct!

But beyond all this is needed that care and patience in looking at a bird which permits one to write a fairly detailed description of it, or, far better, draw and color an outline of it. This, it is true, cannot always be done, but, as we have said, therein lies half the charm of the study of birds in nature. Certainly no one would care to pluck birds as he would blossoms!

After the above was written it was discovered that Dr. Allen, in the immediately succeeding pages, had also taken for his text the subject of accuracy of observation in the study of birds. Prompted by his experience as a teacher, he dwells not only on the importance of accurate observing in naming birds in nature, but also upon its value in training one to see other things as well as birds. "It is not sufficient," he writes, "that the child's eyes be opened; it is necessary that they be trained to see," and if, through an interest in birds, this end can be achieved, then, indeed, is the pupil doubly fortunate.



# The Audubon Societies

## SCHOOL DEPARTMENT

Edited by A. A. ALLEN, Ph.D.

Address all communications relative to the work of this department to the Editor, Cornell University, Ithaca, N. Y.

### KEEPING TRACK OF THE BIRDS

From the whole field of nature one can select no more engaging study than that of bird-migration. The brilliant colors of birds, their sweet songs and their interesting habits please us and invite to further study, but the mystery that enshrouds their travels will always hold us fascinated. The strange calls from the clouds by night, the passage of the well-formed flocks of Ducks and Geese by day, the flash of new wings through the garden, and the sound of familiar voices each spring inspire us to marvel at the power and precision of the guiding sense that draws birds back each year to their homes of the previous summer. Every August the Bobolink, leaving the fields of the northern states, travels 5,000 miles to the pampas of Brazil and, on schedule time, comes back the following May and hovers over the same fields and alights on the same fence-posts.

It is not surprising that this phase of bird-study has fascinated mankind, and that governments employ scientists to study and investigate it, and that thousands of people, scientists and laymen, spend much time following the birds in an effort to learn their secret. The sport of bird-study never grows old; it never grows monotonous; and grown-ups join with the children in the competition to see the first Robin, the first Bluebird, and the first of each species in its turn. The return of the birds in the spring takes thousands of people into the woods and fields to enjoy nature and affords to many the inspiration for keeping a journal of passing events. The accurate recording of one's observations is something to be greatly encouraged, and many a fine trait in man and woman develops from such a habit started in school. The majority of school children will doubtless never continue their studies of birds far enough to add much of value to the volume of ornithological knowledge, but this is no reason why they should not receive the benefits to be derived from learning to observe accurately. They should, therefore, be encouraged in every way to follow the return of the birds from day to day and to record their observations on some form of a bird-calendar. Incidentally, the teacher will find that the keeping of a bird-calendar in the schoolroom is one of the simplest and most profitable ways of stimulating bird-study, and it is the object of these paragraphs to suggest ideas for their use.

There is a feeling among some people that mere interest in birds is sufficient to lead a child to all the benefits that can be derived from their study. While

it is true that the child's interest is the primary and essential thing to awaken him and open the door to a great storehouse of pleasure and resource, this interest can well be utilized by the teacher to inculcate the most fundamental of all teachings, *accuracy of observation*. It is not sufficient that the child's eyes be opened; it is necessary that they be trained to see. The man who sees accurately understands what he sees, and makes a success of life instead of a failure. A judicious use of a bird-calendar, with emphasis laid upon the accuracy of the records, will not only arouse interest in bird-study and maintain it, but also will give to the children a most vital training. It is a matter of common knowledge that the active imagination of a child will lead him to see almost anything that he is expected to see or wishes to see without any intentional dishonesty on his part. As a result, he often reports impossible observations of birds out of season or birds not found in the locality, and, unless the teacher is circumspect, these observations are given equal value on the bird-calendar with more commonplace but correct observations. It should not be necessary for a teacher to know all of the birds himself or the proper time of arrival of all of them before starting a bird-calendar in his school. What is important is that he should cultivate an attitude of accuracy himself and impress the children with the need of it. Many a fine bird-calendar has fallen short of its full usefulness because the teacher has not dared to question the children's observations and has allowed inaccurate reports, intentional and unintentional, to appear upon it.

There are available, for most localities, local lists of the birds known to be found in that part of the country. Many of these local lists give the average date of arrival of each bird. If a teacher can refer to such a list he can quickly tell whether a child's record is improbable and question him accordingly. The training which a child receives in this way may do more good than the calendar itself, for not only will it impress him with the value of careful observation, but it will also impress him with one of the greatest marvels of migration, the accuracy of the spring arrival of each species of bird year after year.

### DIRECTIONS FOR KEEPING A BIRD-CALENDAR

For the use of individuals wishing to keep a full record of their observations throughout the season and from year to year, the method employed by Dr. Chapman and described on page 10 of his 'Handbook of Birds of Eastern North America' cannot be improved upon. At Cornell, in addition to keeping individual records of this kind, we maintain a 'Bird-Chart,' which is essentially the same as a roll-book spread out, upon which the observations of all who coöperate are recorded. It is made of profile paper and covers a wall-board about 9 feet long and 4 feet wide. At the left are three vertical columns for the names of the birds, the names of the discoverers, and the localities where they were first seen. The remainder of the chart is divided into squares so that there

are 365 of them following the name of each bird to receive the daily records. For convenience the chart is ruled into weekly columns and a rider is used bearing the names of the birds to facilitate the entry of records. The chart is long enough vertically to receive the names of about 200 birds which is the average number reported each year. This chart system, which was started nearly fifteen years ago by Dr. A. H. Wright, has always stimulated a great deal of interest among students, and has resulted in a great deal of valuable information which is of easy reference. For ordinary school-room use, however, such a chart is too cumbersome and is much more elaborate than necessary, but the main features of it should be retained.

There are three main types of calendars that have proved successful for school use, that the editor is familiar with, and there may be others equally good which he has not seen and which he would like to hear about. In all three there are at least four vertical columns: The first for the name of the bird; the second for the name of the discoverer; the third for the place where it was seen; and the fourth for the date when it was first seen. In order to verify the first record, it is well to keep the second record also, so that if too great discrepancy occur between the first record and the average date of arrival, the second date can be retained instead. The calendar would be of still greater value if a record were kept of when the bird became common, when it began to nest, and when it was last seen, but, for most school calendars, the first four or five items are sufficient.

The three types of calendars differ primarily in their decorations: Some teachers prefer to have but a single competition in the drawing-class to select the design for the calendar, and this usually results in one such as here illus-

### BIRD CALENDAR



REDSTART

YEAR	First seen	By whom	Where	Next seen
1918	April 29	J.T. Lloyd	Cascadia	May 1
1919	May 2	G.P. Burr	Palmer	May 5
1920				
1921				
1922				

A GOOD TYPE OF BIRD CALENDAR  
FOR THE SCHOOL

It permits of coordination between the drawing and nature work, and preserves the records from year to year to inspire each class of children. When the bird is first seen, the card should either be made or brought out of the cupboard, and the entry made. It should then be hung in a conspicuous place.





calendar. Perhaps but few of the birds are illustrated the first year, but those that are serve as inspiration for the next year's class to surpass them. As soon as a bird is reported, its card should be brought forth, the date, authority and locality added, and then it should be hung up in a conspicuous place. Perhaps the class will like to improve upon the picture, and the competition which results will stimulate the drawing lesson, while the presence of the names of the boys and girls in the last year's class who first observed the birds the previous year will stimulate them to greater observation out of doors.

Whichever type of calendar is employed, it should always be borne in mind that quality is better than quantity, and that accuracy is of prime importance. The calendar should be started before the birds begin to come back in the spring, so that it will include the winter residents. The nearer the first of January it is begun the better, though it may be started at any time. The children must learn to recognize that certain birds are with us throughout the year (permanent residents), others merely spend the winter in a given locality and nest farther north (winter residents), while the majority spend the winter in the South and either nest with us during the summer (summer residents) or pass through on their way to a more northern nesting-ground (transient visitants). The last two classes are the ones that make the keeping of a calendar so interesting, because of the accuracy of their arrival in the spring, but the first two must not be forgotten.

If a teacher will read any of the numerous accounts of bird-migration that have appeared, such as that in the introduction to Dr. Chapman's 'Handbook of Birds of Eastern North America,' or the paper by W. W. Cooke on 'Bird Migration,' published by the U. S. Department of Agriculture, or the little book entitled 'The Travels of Birds' by Dr. Chapman, he will be able to make the study of bird-migration and the bird-calendars much more interesting. For the benefit of those who are unable to refer to a more complete account, the following summary prepared by the writer for the *American Forestry Magazine* may prove useful.

### THE RETURN OF THE BIRDS

When the high tide of the spring migration comes, it is about the middle of May and nearly three months have passed since the first Horned Larks started northward over snow-covered fields. The March Robin brings forth its crowd of admirers, the call of the Bluebird draws a response from others, but when every hedgerow and thicket resounds with musical voices, and even the trees of the city streets flash with brilliant Warblers, everyone likes to stop and listen and notice the unusual number of birds. We cannot help wondering whence have come these little wanderers, where they are going, and what is the meaning of their journeys. In great waves they come from the South, flood us with beauty and song for a few days, and then pass on. Wave after wave passes over us during the course of the month, until June arrives, when the last immature birds hasten on to their nesting-ground and leave us with only our summer birds until the fall migration shall bring them back once more.

A little observation from year to year shows us that these May birds are extremely

regular in their appearance and disappearance. One can soon learn just when to expect each species, and, if the weather is normal, it will arrive on the day set. The earlier birds, such as the Robin, Bluebird, Blackbird, Canada Geese, Meadowlark, and Mourning Dove, which come during March, are much less regular because of the idiosyncrasies of



THE SCREECH OWL A PERMANENT  
RESIDENT

the weather. If there were no such thing as weather, if food were always equally abundant and if there were one great level plain from the Amazon to the Great Slave Lake, the birds would swing back and forth as regularly as a pendulum and cross a given point at exactly the same time every year. For this migrating instinct is closely associated with the enlargement and reduction of the reproductive organs, a physiological cycle which, under normal conditions, is just as regular as the pulsing of the heart and records time as accurately as a clock. With most species the organs of mature birds begin to enlarge before those of birds hatched the preceding year, and those of the males before those of the females. Because of this, the male birds arrive first and are followed by the females and later by the immature birds. With some species, like the Robin, Bluebird, and Phoebe, there is very little difference in the time of arrival, but in the case of the Red-winged Blackbird, often a period of two weeks, or even a month, intervenes. This may be a wise provision of nature to secure a nesting-area that will not be overcrowded, for once the male has established himself—and it is often at the same spot year after year—he drives away all other males from the vicinity, awaiting the arrival of the females, and particularly his mate of the previous year.

But with the later migrants, such as the shore-birds, that have a long way to go, the females usually arrive with the males, and, with some species, courting takes place en route and they arrive at the breeding-ground fully mated and ready to nest.

The early migrants are those that have spent the winter entirely within the United States. This is true of all the March birds in the northern states, but, during the last of the month, the first birds from the West Indies and Mexico begin to arrive in the southern states. About the middle of April, many of the birds that have wintered still further south begin to arrive, including the Swallows, the Spotted Sandpipers, the Black and White Warbler and the Water-Thrush. The last of April and first of May brings even to the northern states the initial wave of birds from Central America, and perhaps even northern South America, and about the middle of this month, when occurs the height of the migration, thousands of tiny Warblers, Vireos, and Flycatchers that have been wintering on the slopes of the Andes or the pampas of Brazil, are winging their way overhead to Labrador, Hudson Bay, and Alaska. The shortest route which one of the last to arrive, the Blackpoll Warbler, may traverse is 3,500 miles, while those which nest in Alaska travel over 5,000 miles. Some of the shore-birds, which bring up the close of the migration in late May or early June, have undoubtedly come from Chile,



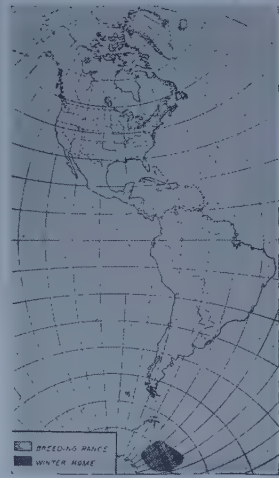
or even from Patagonia, and they still have several thousand miles to go, so that, before they reach their nesting-grounds again, they will have traveled 16,000 miles since leaving in the fall. The 'champion long-distance migrant' of them all, however, is the Arctic Tern, the extremes of whose nesting and wintering ranges are 11,000 miles apart, so that they have to travel 22,000 miles each year.

This constrains us to wonder how these tiny wayfarers are able to travel such tremendous distances and still return so accurately to their homes. That many of them do this has been proved by placing aluminum bands on their legs, so that they can be recognized from year to year. Not only has this been demonstrated, but it has likewise been shown, in the same way, that many birds spend the winter in exactly the same place year after year.

At one time it was thought that they followed well-marked highways in the mountains, rivers, and coast-lines, surveyed, as it were, by their ancestors and unfailingly followed by all descendants. But now it is believed that these highways are followed only so far as they afford abundant food, and when the food-supply lies in some other direction, they are regardlessly abandoned. What is it, then, that guides them mile after mile in their flights, flights made mostly under the cover of darkness, and often at altitudes varying from 2,000 to 5,000 feet above the earth? A sense of direction, it is now called, an instinct for recording directions as accurately as a compass, which we, having only so crudely developed in ourselves, are at a loss to understand; an instinct which permits birds to travel north, south, east, or west and not lose their bearings. For the migration route of most birds is not directly north and south, and many preface their southerly journeys by long flights directly east or west. The Bobolinks and Vireos of the northwestern states, for example, leave the country by way of Florida or the Gulf Coast, and first fly directly east to the Mississippi Valley, to join the others of their kinds before starting southeasterly. The White-winged Scoters, which nest about the lakes of central Canada, upon the completion of their nesting duties, fly directly east and west to the Atlantic and Pacific where they winter. Some Herons preface their migrations by long flights, even to the north, so that occasionally Little Blue Herons and Egrets are found in the northern states during August and September.

With birds that travel such enormous distances, it is interesting to note their rate of advance. While it is possible for birds to travel great distances without a rest, as witnessed by the fall flights of the Turnstone from Alaska to Hawaii, or of the Golden Plover from Labrador to northern South America, distances of over 2,000 miles across the open sea, they do not ordinarily progress far in single flights. The spring advance of the Robin, for example, averages only 13 miles a day from Louisiana to southern Minnesota. The rate increases gradually to 31 miles a day in southern Canada, 52 miles per day by the time it reaches central Canada, and a maximum of 70 miles a day when it reaches Alaska. It should not be inferred from this that each Robin does not ever migrate less than 13 or more than 70 miles a day. Probably they often fly more than a hundred or two hundred miles in a single flight, as do, undoubtedly, many of the smaller birds, but after each flight they dally about their resting-place for several days before starting on again, and this brings down the general rate of advance.

The rate of speed at which birds travel is rather difficult to estimate, except in the



MIGRATION OF THE  
ARCTIC TERN (From Cooke)  
The extreme summer and winter  
homes are 11,000 miles apart

Homing Pigeons, which can be timed from one place to another, or in the Ducks and Geese, whose conspicuous flocks, traveling high over cities and towns, can be easily



THE BOBOLINK NEAR ITS NEST WITH  
FOOD FOR ITS YOUNG

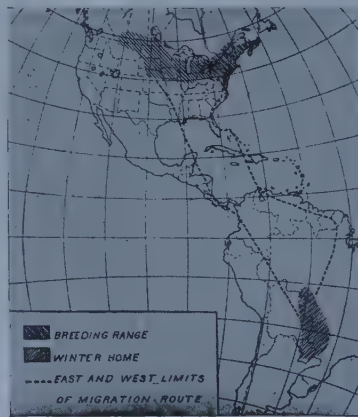
followed. The championship speed for Homing Pigeons has been recorded as 55 miles an hour for a period of four hours. A Great Blue Heron has been timed by a motorcyclist keeping directly below it and found to be 35 miles an hour. A flock of migrating Geese has been found to be traveling at a speed of 44.3 miles per hour and a flock of Ducks at 47.8 miles. The speed of smaller birds is usually less, although when they mount high in the air and start on their migratory flight, they doubtless fly faster than the birds one so often passes flying parallel to a passenger train or a suburban car.

shown when they arrive at the Gulf of Mexico or other large body of water where it is impossible to get food of any kind. If they started early in the morning, so as to be across by night, they would not be able to get much food before starting, and by the time they reached the other side, it would be dark and again impossible to feed. Thus an interval of thirty-six hours would elapse without food, a period that might result disastrously for many birds because of their high rate of metabolism. If, however, they spend the day feeding and migrate by night, their crops are full when they start, and, when they arrive at the other side, it is daylight and they can begin immediately to glean their living.

The vast majority of birds migrate during the night; some migrate both by day and by night; others only by day. The latter are, for the most part, birds that find their food in the open and can feed as they travel. Such are the Robin, the Kingbird, and the Swallows. Other birds like the Sparrows, Vireos, Warblers, and marsh birds, that find their food among the trees or in dense vegetation, migrate entirely by night. The necessity for this is

During these night migrations birds are attracted by any bright, steady light, and every year hundreds and thousands dash themselves to death against lighthouses, high monuments, and buildings. When the torch in the Bartholdi Statue of Liberty was kept lighted, as many as 700 birds in a month were picked up at its base. On some of the English lighthouses, where bird

The Bobolink summers in the northern states and winters chiefly in northern Argentina. (From Cooke.)



#### MIGRATION OF THE BOBOLINK

The Bobolink summers in the northern states and winters chiefly in northern Argentina. (From Cooke.)

destruction was formerly enormous, 'bird-ladders' have been constructed, forming a sort of lattice below the light where the birds can rest instead of fluttering out their lives against the glass. Again, in crossing large bodies of water, birds are often overtaken by storms, and as their plumage becomes water-soaked, they are beaten down to the waves and drowned. Sometimes thousands of birds are killed by a single storm. But, of course, the vast majority of birds sweep on and arrive at their destinations in safety.

And so, if one steps out on a cloudy night, when the birds are migrating low to escape flying through the moisture-laden clouds, he will hear their strange calls, only faintly resembling their familiar daytime notes. Then he can picture to himself the thousands of winged travelers returning from a sojourn in the tropics and pushing on through the black night, guided by an innate sense of direction straight to their old homes. Then he can think over the past ages through which this migrating habit has evolved to the days when all North America basked in a tropical sun and birds darted among the palms and tree ferns without ever a thought of leaving the homes of their forefathers. Then one can picture to oneself the coming of the ice age and the destruction of all the life that could not adapt itself to the changed conditions or flee before them. One sees the birds pushed gradually to the south, encroaching upon those already there. One understands the crowding that must have ensued, and how these birds spread northward again as the glaciers receded, only to be pushed back once more by the coming of winter. One contemplates how, with the withdrawal of the ice and the evolution of the seasons, these migrations, by repetition through the ages, became permanent habits or instincts; and, with the ensuing modifications in the contour of the continent, and the changes in the location of the food-supply, many variations developed in the migration route of each species which seem inexplicable today.

One pictures these things to himself; one understands a little better the great mystery of the bird's life; and, perhaps, one appreciates somewhat more fully the presence in our thickets and gardens of these songsters, whose lives are ever one series of hardships and dangers, and yet which, withal, are so expressive of the happiness and joy to be derived from nature.



A BANDED HOUSE WREN

By marking birds with aluminum bands it has been proven not only that many come back to the same place each year, but also that they winter in the same locality year after year.

## QUESTIONS

1. Name five birds that are permanent residents in your locality.
2. Name ten birds that are summer residents.
3. Name ten birds that are transient visitants.
4. Name five birds that are winter visitants.
5. What is the earliest date of arrival of the Robin in your locality? The Bluebird? The Phoebe? The Red-winged Blackbird? The Canada Goose? The Bobolink? The Baltimore Oriole? The Scarlet Tanager?
6. Why do some birds return earlier than others in the spring?



7. How many different kinds of birds have you seen in one day? When was this and why did you see more on this particular day?
8. Which birds are the most regular in their return from year to year and why?
9. Do you keep a record of all the birds you see every year? What kind of a record book do you have?
10. Do you have a bird-calendar in the school every year? How many birds were seen last year?
11. What is the largest number of birds you have seen in a year? How many different birds do you know?
12. Do you know if the male or the female bird comes back first in the spring in the cases of the Robin, the Bluebird, the Red-winged Blackbird, the Baltimore Oriole, and the Scarlet Tanager?
13. Do all birds sing as soon as they come back in the spring, or do some of them wait until the females arrive?
14. Are the first Robins you see in the spring the ones that nest in your vicinity, or do they go on farther north and your birds come later? Are all birds alike in this respect?
15. Do birds return to the same place to nest year after year or are their places taken by others of the same kind?

## FROM YOUNG OBSERVERS

### AN INTERESTING RECORD

I am sending a set of answers to some of the questions on page 386 of BIRD-LORE for November-December, 1919.

1. I have a list of twenty-five species recorded since December 20. The majority of them are permanent residents.
2. I know of what the food of a large portion of them consists.

#### LIST OF WINTER BIRDS

1. English Sparrow; P. R.; food, oats and other grains found about the barn; roosts under eaves or in sheds.
2. Harris' Sparrows; W. V.; feeds chiefly on weed seeds; roosts in bushes.
3. Slate-colored Juncos; W. V.; food, seeds (as near as I can tell); roosts in deep weeds.
4. Chickadees; W. V.; feeds from the bark of tree on insect pests.
5. Cardinals; P. R. I cannot be sure of his food but it is partially composed of wild winter fruits, such as hackberry and huckleberry.
6. Red-bellied Woodpecker; P. R.; feeds from walnut tree-boring pests chiefly, but often is seen on sycamore or dead trees.
7. Hairy Woodpecker; P. R.; this is a rare bird here and I cannot be sure of his food.
8. Hermit Thrush; W. V.; feeds from the worms in horseweed stalks; roosts near the ground in thickets.
9. Field Sparrow; P. R.

10. Blue Jay; P. R.; roosts in tree-tops.
11. American Robin; P. R.; feeds from the sumac bushes or other wild berries, during a thaw from the slough banks as a Plover; roosts in thickets.
12. Northern Flicker; P. R.; wood-boring insects, chiefly from dead wood.
13. Swamp Sparrows; W. V.; roosts in deep, thick grass.
14. Downy Woodpecker; P. R.; feeds chiefly on boring insects in the small limbs of trees, in brush or even in weed stalks.
15. Bob-white; P. R.; its food consists of seed picked from, on or near the ground; roosts on the ground in thickets.
16. Bluebird; P.R.
17. American Rough-legged Hawk; W.V.; food, Bob-white, (?), Blue Jays (?), rabbits and rats; roosts in tall trees.
18. American Crow; P.R.; food, corn, poultry (?) and carrion; roosts in large colonies in trees.
19. Red-tailed Hawk; W. V.
20. Meadowlark; P.R. (more abundant in winter; rare in summer); feeds on grass seeds; roosts on the ground in low grass.
21. Carolina Wren; W.V.
22. Tufted Titmouse; rare P.R., abundant W.V.; feeds to a large extent on insects from the bark of trees.
23. Northern Shrike; W.V.; food, Sparrows chiefly.
24. Towhee; W.V.
25. Red-headed Woodpecker; P. R.; feeds on boring pests from post oak trees (chiefly).

3. In the case of the Flicker, Robin, Blue Jay, and Bluebird they migrate, although permanent residents in this locality. In each of these cases there is an interval when no birds are seen between the summer and winter birds.

4. Our smaller birds are usually found in creek-bottoms or near ponds while the larger ones roam about over large areas. All birds are not alike in this respect; for instance, one pair of Blue Jays is always found near a slough while another pair roams over a section of land.

9. The track of a Crow has the broad toes in front and one behind without a deep impression made by the tarsus. That of a Pheasant is as a chicken's, only shorter. The tarsus leaves a noticeable print which the hind toe does not show. The Sparrow has a long hind toe and three front ones. The hind toe of the Lark is not so long.

10. See Q. 2.—THEODORE R. BEARD, *Sapulpa, Okla.*

[Here is a record of observations that can well be emulated. How many boys and girls are there that can do as well for their locality? As soon as you have introduced yourself to a bird by learning its name, there are numberless observations to make on its habits before you really know it. Does everyone agree that the hind toe of the Lark is shorter than that of the Sparrow?—A. A.A.]

# THE GROUND DOVE

By T. GILBERT PEARSON

## *The National Association of Audubon Societies*

EDUCATIONAL LEAFLET NO. 101

A dainty little pedestrian is the Ground Dove. One may meet it almost anywhere, in the gardens, fields, or the quiet streets of Florida towns. Its legs are very short and it moves with elevated tail and a queer bobbing of the head, but with a grace and dignity that are both quaint and very charming. It is the smallest member of the Pigeon family in North America, measuring  $6\frac{3}{4}$  inches from bill-tip to tail-tip.

Unlike the Inca Doves of Texas and the Southwest, they never sit with others on a wayside limb, like a row of little brown dummies, and unlike the Mourning Dove they seem never to gather in large flocks. Rarely are as many as eight or ten seen at a time, and when this happens the birds are usually brought together by their common interest in an abundant food supply. Usually they are seen in pairs, although in the mating season it is no uncommon sight to see three together.

The note of the Ground Dove is a soft, cooing, mournful sound, which in many localities has given it the name of 'Mourning Dove.' The call, often repeated, issuing from the depths of an orange tree or the sheltered limb of a live oak, is one of the characteristic bird-notes that is borne to one's ears in that subtropical land.

The gentle nature and appealing appearance of the Ground Dove have an unusual effect on the mind of the average Florida negro. To him this is one bird that should not be molested. I have often been warned by dusky field hands of the risk one would run should he harm a Ground Dove. These eager hunters, who will unhesitatingly shoot Meadowlarks, Flickers, Robins, or other birds that may chance to come within their range, are loth to fire on this semi-sacred bird. To their minds it is certainly 'bad luck' to kill one.

The Ground Dove's food consists largely of small seeds which it gathers in the garden, on the lawn, by the roadside, in the field, and other places where weeds or grasses are found. Naturally many insects are also picked up in their travels, particularly in the spring and summer. Small wild berries also are consumed. So far as known they never adversely affect the interests of mankind, even in the slightest degree, and wherever found they are protected by statute and by the still stronger law of public sentiment.

Although a terrestrial bird when feeding, it does not hesitate to light upon fences, trees, and buildings. Often they may be seen sitting on the tops of barns, farmhouses, or dwellings in the towns, and from these elevated perches they send forth their gentle cooing notes which the world may hear and enjoy.



We are accustomed to think of Doves as being birds of peace. The Ground Dove is by no means one of the species that may believe in 'peace at any price.' Unhesitatingly he will attack one of his kind, or even a Mockingbird, Brown Thrasher, or other feathered neighbor that may seek to take his food. His soft bill does not make much of a weapon, and he seems to rely mainly on the stroke of his wing to disconcert his opponent.



NEST AND EGGS OF THE MEXICAN GROUND DOVE IN MESQUITE BUSH  
Photographed by William L. and Irene Finley, Tucson, Ariz.

In my experience, when a brooding bird is approached it leaves the nest suddenly and flutters away. Occasionally an individual is found that declines to expose her treasures without an argument. As the inquiring hand comes close to the nest, she does not strike with her bill, nor even indulge in loud scolding, but with ruffled feathers raises her wings in a threatening attitude, as if she would crush the offending fingers if they came too close. Surely a puny, hopeless bit of resistance; nevertheless it shows that a stout heart throbs within the feathered breast of the little mother.

There is no bird in the United States that to my knowledge breeds over so long a period of the year as does the Ground Dove. In my experience with these birds in Florida, I have found their nests occupying varying situations

during different seasons of the year. Thus on February 28 and March 3 I have found nests located on the tops of partially decayed stumps of pine trees, only about 2 feet from the ground. Later in the season I have seen numerous nests placed on the ground, usually in fields of weeds or in standing grain. Fields of oats seem to be especially favored with their presence during midsummer. Late in July, August, and on to the latter part of September, I have found their nests on horizontal limbs of large orange trees, on the level fronds of palms, and on the cross-bars or rails, so commonly used for supports of the widespreading scuppernong grape-vines.

Wherever placed the nest is composed chiefly of grasses with perhaps a few twigs or rootlets. It must have a support, for it is entirely too frail a structure to withstand the destructive forces of the winds and rains, if placed in the crotch of a bush. Two elliptical-shaped pure white eggs are laid—never more.

In flight the Ground Dove usually keeps near the ground when flying across open fields, only rising to clear shrubbery, trees, or buildings. Ordinarily it does not proceed over 100 yards before again alighting. In fact it seems strongly attached to the immediate neighborhood in which it lives. On some occasions, however, I have noticed its flight prolonged to what seemed an unusual extent. For example, during June, 1918, while lying becalmed on the yacht, 'Seafoam,' at Sara Sota, Fla., these birds were very frequently noticed as they passed over the town and out over the bay at least a mile to a neighboring island. To make this journey they had to fly quarteringly across a breeze so strong that no captain of any vessel in the harbor cared to face it. Yet the Ground Doves flew back and forth between the town and the island, apparently without hesitation.

In traveling along the sandy roads through the pine barrens in Florida, it is no uncommon sight to come upon a pair of these little birds dusting themselves. They scratch out little hollows and lie in them, sometimes on one side, then on another, kicking and fluttering, and causing the warm sand to trickle down through their feathers, much as does a Bob-White in similar surroundings.

I have spoken of the Ground Dove only as occurring in Florida. It is found also in Georgia and South Carolina. Over these states its range seems to be confined almost entirely to the immediate vicinity of the coast and outlying islands. Its extreme northern natural limit may be said to be eastern North Carolina. It likewise occurs along the Gulf Coast, but in very limited numbers, ordinarily not beyond New Orleans.

Further west we meet with the very closely allied species known as the Mexican Ground Dove. The birds are very similar, and practiced indeed must be the eye that can distinguish them. The Mexican Ground Dove is found in the southwestern tier of states and down through Mexico to Central America.

In speaking of the nesting habits of the Mexican Ground Dove, in Arizona, William L. Finley, writing in *BIRD-LORE* for May-June, 1915, says:

"One finds a great deal of difference in the individuality of birds. Two pairs of Ground Doves, whose nests we found, were very shy; but at a third nest we discovered that we were able to move the camera up within 10 or 12 feet without frightening away the brooding parent. After it had stood there a little while, we slowly moved it to within 4 or 5 feet. Instead of leaving her home, the Dove raised her wings and spread her tail in anger. She gave a fine, intense, whining note, as she struck at us with her soft bill. We annoyed her to the extreme by putting a finger up to the edge of the nest, and finally stroked her feathers. Then she seemed to realize that we had no intention of harming her, and let us take as many pictures as we wished."

It is one of the laws of nature that most birds that spend their lives largely on the ground are subjected to so many natural enemies that it is necessary for them to lay a large number of eggs in order to keep up the race. Thus a Ruffed Grouse lays from six to ten, a Wild Turkey from eight to fourteen, and the Bob-White all the way from a dozen to eighteen or even twenty. Yet the Ground Dove is able to hold its numbers against its enemies by laying only two eggs. How this is possible has not been fully explained. It certainly indicates that the little Dove is well able to take care of itself. Among its enemies are snakes, and numerous mammals, such as skunks, opossums, and foxes. Many are annually caught by domestic and semi-domestic cats, for no matter how well the average cat is fed it will seize a bird if it has the opportunity.

On one occasion I saw a Sharp-shinned Hawk suddenly drop into an open field and seize a Ground Dove, but, fortunately for the Dove, it escaped before the Hawk had flown more than 50 feet with its victim. The Dove was out of sight in a little oak bush before the numerous feathers that the Hawk had dislodged had drifted to the earth. Walking over to see if the bird was much injured I was surprised to see another Dove rise on the wing at a spot which appeared to be not over 4 feet from where its companion had been seized. As the Hawk had not observed me when it flew away, it is evident it had seen only one Dove, the other probably escaping detection by the wise expedient of lying motionless when sudden danger came upon it.





# The Audubon Societies

## EXECUTIVE DEPARTMENT

Edited by T. GILBERT PEARSON, Secretary

Address all correspondence, and send all remittances for dues and contributions, to the National Association of Audubon Societies, 1974 Broadway, New York City.  
Telephone, Columbus 7327

WILLIAM DUTCHER, <i>President</i>	
FREDERIC A. LUCAS, <i>Acting President</i>	T. GILBERT PEARSON, <i>Secretary</i>
THEODORE S. PALMER, <i>First Vice-President</i>	JONATHAN DWIGHT, <i>Treasurer</i>
SAMUEL T. CARTER, JR., <i>Attorney</i>	

Any person, club, school or company in sympathy with the objects of this Association may become a member of it, and all are welcome.

Classes of Membership in the National Association of Audubon Societies for the Protection of Wild Birds and Animals:

\$5 annually pays for a Sustaining Membership  
\$100 paid at one time constitutes a Life Membership  
\$1,000 constitutes a person a Patron  
\$5,000 constitutes a person a Founder  
\$25,000 constitutes a person a Benefactor

FORM OF BEQUEST:—I do hereby give and bequeath to the National Association of Audubon Societies for the Protection of Wild Birds and Animals (Incorporated), of the City of New York.

## SUMMER RECREATION-SCHOOL OF NATURE-STUDY

Three years ago the generosity of Charles M. Ams, Esq., of New York City, placed at the disposal of this Association the use of his great private estate at Amston, in eastern Connecticut, comprising several square miles of ideal country for birds and game, and a large slightly lake. This has been made an Experiment Station and Wild-Life Sanctuary of the Association, a model game-farm and demonstration point. Last season this game-farm produced over \$4,000 worth of game-birds, and afforded great pleasure to writers and students. In conjunction with this there has developed a very successful Recreation School of Nature-Study and Nature-Lovers' Colony, with students and visitors from all over the United States and Canada.

For 1920 the whole program and plan is to be materially broadened. From the middle of May and through June there will be informal watching of the bird migration, finding of nests, with plate and motion-picture photography, also special experimentation in new methods of rearing young Ruffed Grouse, Wood Ducks, and other species. Well-known ornithologists plan to be in attendance.

From July 3 to 23 will be held the first

term of the regular Summer School, with studies as follows, always from the popular standpoint, and never in a way to be dry or burdensome:—Knowing Wild Birds Afeld; Attracting Birds and the Rudiments of Game-Breeding Methods; Nature Photography, Plate and Motion Pictures, Including Making and Coloring Prints and Lantern-Slides—the above being taught by Herbert K. Job. Also instruction in school methods for teachers will be given by Miss Helen D. Wise, of Washington, D. C., specialist in nature-work in normal and other schools,—including planning of nature courses for various grades, what lessons to give and how to give them, on birds, flowers, insects, shells, etc. There will also be illustrated evening lectures by visiting specialists, exhibitions of lantern-slides and motion pictures of bird-life, also field- and lake-excursions, picnic suppers at the lake, aquatic sports, and informal musicals.

The second term will be from July 24 to August 13. There will be a special course in practical game-farming, to prepare men or women to breed and raise game-birds and wild-fowl for pleasure or profit. The above courses will be continued further

for those who wish to remain throughout, or repeated for newcomers. Further evening lectures will be given, and recreational and social features will be especially emphasized.

Rooms may be secured at Amston Inn or adjacent cottages or camps, with meals at the Inn. The Audubon House is a social headquarters of the Association, and has

quite a complete collection of bird specimens, a working Nature library, and other exhibits. Amston is 10 miles west of Williamantic, and everything is within walking distance of the railway station.

Circulars with full details and terms will be mailed to all who inquire. Write to the Director, Herbert K. Job, West Haven, Conn., or to our New York office.

## EGRET PROTECTION IN THE SOUTHERN STATES

A brighter day is dawning for the persecuted Egrets of the United States, now confined almost entirely to the southeastern states. It is generally conceded that but for the efforts of this Association, the large Egret and the little Snowy Egret would have become almost, if not entirely, extinct by this time in Florida, Georgia, and the Carolinas.

It has been a long, uphill fight for many years to raise funds and secure good agents to guard the few remaining nesting colonies of these birds. We have had practically no help under the state laws. Florida has no state game-warden system. The assistance of the United States Government has, heretofore, been very meager. More funds having become available, the Biological Survey has entered upon a definite policy of putting some of their agents actively in the field to apprehend and prosecute those who kill these birds. As these lines are written several of its agents are in Florida,

which certainly means that much will be accomplished. Last year the Government's agents made a seizure of plumes at Miami and conducted a successful prosecution, which was well advertised throughout the state. A few more legal actions of this kind will have a most salutary effect on the movements of the plume-hunters.

It is confidently expected that the members and friends of the Association will continue to make it possible for us to employ as complete a series of guards for the Egret colonies as it is possible to procure, and with the active and hearty cooperation of the Government, which is now actually in operation, there seems no reason why the Egrets should not again increase and be brought back to their old haunts much in the same way that the Gulls and Terns along our eastern coastline have been restored through the legislative, educational, and warden work of this Association.

## AN INTERESTING LETTER

The following letter, written March 4, 1920, has been received from E. W. Nelson, Chief of the Bureau of Biological Survey:

"*Dear Mr. Pearson:* It will interest you to know that a few days ago Pacetti, with United States Game Wardens, Farnham and Birsch, arrested William B. Mackenson, of Kissemmee, and found in his possession the plumes of one hundred large and small Egrets in addition to those of other Herons, which were estimated locally to be valued at \$12,000. Mr. Mackenson was promptly taken into court, tried, and fined

\$250 and the plumes confiscated. As you have formerly advised me he is an old offender in Florida and we are greatly pleased to have been able to capture him. I hope that our wardens may be able to get other plumers before the season is over.

"United States Warden Smith, at Norfolk, recently seized a wagon-load of Ducks and Geese which he found illegally held in a number of cold storage plants in that place. He was instructed to turn these over to the naval and other hospitals in that

city. Many similar cases are being constantly reported.

"Yesterday the hearing over the constitutionality of the Migratory Bird Law took place and several of us went to the Supreme Court and heard the arguments. I am very

confident that the court will decide that the law is constitutional but, of course, nothing will be known until they report on the case, which may possibly be about June, when the court adjourns for the season."

## BIOLOGICAL SURVEY NEWS BULLETIN

The Bureau of Biological Survey of the United States Department of Agriculture is now issuing a monthly mimeographed bulletin, containing items of news in connection with the Bureau's activities. The February issue, for example, contains many notices of the work of the members of the office and field staff. Reference is made to the special undertakings in which they have been engaged, the lectures they have given, etc.

Reports on the work of the destruction of predatory animals and rodents, and the

enforcement of the Migratory Bird Treaty and Lacey Acts form a very interesting portion of the bulletin. There are also notes on the mammal- and bird-reservations under the care of the Government. A list of the publications which the Biological Survey has for general distribution is given and also a directory containing the names and addresses of the field staff of the Survey. Altogether it is an extremely interesting bulletin for anyone engaged in any phase of the work of the conservation of America's wild-life.

## NEW TREATIES PROPOSED

From the Hon. John H. Wallace, Jr., Commissioner of Conservation in the state of Alabama, it is learned that on Feb. 7, 1920, the United States Senate agreed to Senator Bankhead's resolution (Senate Resolution 56) seeking conventions between the United States and certain Latin-American republics for the protection of migratory birds. This resolution requests the President to propose to such countries treaties for the protection of birds which, in the course of annual flight, pass through or from the United States and temporarily sojourn in the countries of Mexico and Central and South America.

This action has been undertaken in view of the success attained under the provisions of the Migratory Bird Treaty between the United States and England regarding the birds that pass between Canada and the United States.

Mr. Wallace has taken the initiative in this matter, being chairman of a committee appointed by the International Association of Game Wardens and Commissioners for the purpose of pressing the subject. All those interested in the conservation of wild life will follow with interest this further undertaking for the protection of America's wild-bird life.

## 'BLUEBIRD,' A LIVE PUBLICATION

One of the brightest, most informing, and up-to-date publications on conservation of wild life issued in this, or any other country, is the monthly magazine, *Bluebird* as it has been appearing of late.

This publication was first started on April 15, 1910, by Dr. Eugene Swope of

Cincinnati. Under the title of *Nature and Culture* it ran through five volumes. In October, 1913, it appeared with the name *Bluebird*. After completing Volume VII with the number issued in September, 1915, Dr. Swope disposed of the magazine to Mrs. Elizabeth C. T. Miller, of Cleveland,



who since that date has published it for the Cleveland Birdlovers' Association.

Mrs. Miller is a very public-spirited woman and most energetic in working for matters looking to the public good. She became so engrossed in important matters in connection with war-relief that beginning with the May, 1919, number she associated with the magazine Miss Georgia M. Bowen as associate editor. Miss Bowen has had the time and ability

to give much added vitality to the magazine. She has a wonderful faculty for gathering current information on topics of conservation and presenting them most entertainingly. With such an associate there is no wonder that the *Bluebird* under Mrs. Miller's support and direction has come to be one of the most valuable publications that reaches the office of the National Association. We hope for it a continually increasing circle of readers.

## REPORT FROM BANGOR

The Bird Conservation Club of Bangor, Maine, has just completed its fifth year. During this period we have had 120 names on our roll, four of whom are honorary members. These have all given interesting papers at our meetings, which occur on the second Wednesday in each month. One of the members has a very extended collection of mounted birds, bird skins, eggs, and nests. It is the most valuable collection now in our state.

We have one life member, who has always been most generous in financial help to the Club. Our membership dues having been placed at so small an amount to enable anyone to become a member who has the interest to do so, we are sometimes dependent upon other resources for extra work.

In 1916 we placed forty-eight cloth posters, warning against bird shooting, and fourteen nesting-houses. Twenty evergreen trees were set out in the city parks. In 1917 fifty-seven more evergreen trees were placed for the shelter of birds in winter. Many bird-houses have been put up by the Club, and by members near their homes. Some houses, which were donated by the schoolchildren were erected in parks and cemeteries. Suet and other food has been placed by the Club Committee and by individual members whenever it seemed needed.

The Club has become a member of the National Association of Audubon Societies and keeps in touch with the National work by reading *BIRD-LORE*. A contribution was sent for the 'Roosevelt Memorial

Fountain.' We have exchanged circulars with other clubs and we have received many letters of inquiry regarding the work, and many gratifying remarks of appreciation.

We have sent letters and telegrams to our Senators regarding the 'Migratory Bird Law' at critical moments. Last year we placed a large glass cabinet of mounted birds in the children's room of our Public Library, these birds having come to their death by accident. This winter we are planning to place another like it in the same room, hoping it may help to interest and instruct the children in bird-life.

Many delightful outings have been enjoyed each year, often through the courteous invitation of members, several of whom have charming summer cottages near the city. Members have thus had an opportunity of adding to their lists of birds seen and heard. The winter birds that remain will be our comfort and care so far as we can do for them. We shall hope to see visitors such as Grosbeaks, Redpolls and Snow Buntings. Many Woodpeckers, Nuthatches and Chickadees come to feed near our homes.

We are trying to interest the Grangers in the preservation of bird-life. The President of our Club presented the matter to about three thousand members of the State Grange, who were holding a series of meetings here. The question presents itself, "Who should be interested if not farmers?"—(MRS.) J. C. BUZZELL, *President*.



NEW YORK STATE GAME PROTECTOR DIRECTING BOY SCOUTS IN PLACING WINTER FOOD FOR BIRDS. SUET FOR INSECTIVOROUS BIRDS ABOVE, CORN FOR PHEASANTS BELOW.

## NATIONAL PARKS ASSOCIATION

In May, 1919, there was organized in Washington, D. C., the National Parks Association. Its objects include such worthy subjects as:—encouraging the extension of the National Parks System, and increasing "the popular study of the history, exploration, tradition, and folk-lore of the National Parks and Monuments." This Association also desires "to encourage art with National Park subjects, and the literature of National Parks, travel, wild-life, and wilderness-living, and the interpretation of scenery."

The organization issues new bulletins from time to time to be sent to the press and for the enlightenment of the general

public. One of the recent issues calls attention to the Yucca House National Monument, a prehistoric ruin a few miles west of Mesa Verde National Park in Colorado. Reference is made also to the Scott's Bluff National Monument recently established on the "old Oregon trail."

This organization is appealing to the public for financial support and its circular contains a blank stating that the annual membership fee is \$3. The President is Henry B. F. McFarland, of Washington, D. C., and the Executive Secretary is Robert Sterling Yard, Room 914, Union Trust Building, Washington, D. C. This is a most worth-while undertaking.



A WEATHER-VANE BIRD FEEDING-DEVICE INVENTED BY W. L. D. BEDELL, NEWARK, N. J. SUPPORTED BY A PIVOT IT SWINGS WHEN THE WIND BLOWS THE BROAD TAIL.

## SAVE THE REDWOODS LEAGUE

An organization with the above title, with headquarters at 430 Library, University of California, Berkeley, has recently come into active operation. The literature states that the President is Franklin K. Lane, and the Secretary-Treasurer, Robert G. Sproul.

The objects of the organization and its work are set forth as follows:

"The Save the Redwoods League was organized to assist in bringing about a better and more general understanding of the value of the primeval redwood forests of America as natural objects of extraordinary interest as well as of economic importance, and for the purpose of bringing into unity of action all interests concerned with the movement to preserve such portions of these forests as should be saved to represent their fullest beauty and grandeur.

"The plans of the League involve:



(1) The securing of a belt of the finest redwood timber bordering the northern highway, in the hope that this area may become a state park. (2) The obtaining of a considerable body of the most typical primitive redwood forest known, for the purpose of a National Redwood Park."

To finance the work of the League an active campaign has been undertaken to enroll members with an annual fee of \$2. All communications should be addressed to Mr. Sproul at the Berkeley address given previously.

#### NEW LIFE MEMBERS

Enrolled from January 1 to March 1, 1920

Andrews, Col. James M.  
Barrie, Miss Marion  
Barrie, Miss Muriel  
Bell, Mrs. Gordon  
Benkard, J. Phillip  
Borland, William G.  
Brown, Geo. McKesson  
Brown, Miss Helen G.  
Caldwell, R. J.  
Cochran, G. D.  
Cole, Mrs. Adelina A. (In Memoriam)  
Connable, Mrs. John Lee  
DeForest, H. W.  
deRham, Charles  
Fowler, A. A.  
Grosvenor, Mrs. Rosa Ann  
Housman, Mrs. A. A.  
Jewett, Wm. Kennon  
Judd, Mrs. M. E.

Leland, Henry M.  
Letts, John C.  
McCluer, Wm. B.  
Megargel, Roy C.  
O'Neil, Mrs. George Francis  
Proctor, Miss Emily Dutton  
Proctor Free Library  
Proctor, Redfield  
Rea, Mrs. Henry R.  
Rockefeller, William  
Shoemaker, Mrs. J. F.  
Silverman, Arthur  
Smith, Mrs. R. Penn, Jr.  
Sullivan, Miss M. Louise  
Thomas, Miss Georgine H.  
Wadsworth, W. M.  
Whiting, Mrs. Samuel R.  
Wood, Miss Juliana

#### NEW SUSTAINING MEMBERS

Enrolled from January 1 to March 1, 1920

Acheson, M. W., Jr.  
Alexandre, W. L.  
Anderson, Miss Katharine M.  
Armstrong, J. I.  
Barksdale, Mrs. H. M.  
Bell, Miss M. K.  
Benedict, Mrs. Wm. L.  
Bigelow, Mrs. Fred H.  
Blodgett, Miss Harriet M.  
Bolster, Richard L.  
Borland, Mrs. John Jay  
Boyle, Thomas L.  
Boylston, Miss Margery  
Brayton, Miss Caroline E.  
Brill, Fred W.  
Brooks, Frederick  
Brooks, Theodore  
Brown, Mrs. J. M.  
Brown, Mrs. James P.  
Carpenter, Mrs. E. M.  
Carpenter, Hall B.  
Carroll, Mrs. J. J.  
Carus, Herman Dietrich  
Cavaness, Miss Sallie  
Chadsey, Miss Edith W.  
Chandler, G. W.  
Clark, Everett  
Claypool, Mrs. George L.

Clegg, Mrs. George R.  
Cobb, Miss Clara A.  
Conant, Miss Helen  
Converse, Mrs. Henry C.  
Crosby, Miss Clara Wode  
Curtis, Mrs. John S.  
Curtiss, Miss Sophia  
Cushing, Mrs. Lexington  
Cushman, Mrs. S. F.  
Dabney, Geo. B.  
Demmon, Mrs. Marcia B.  
Denison, J. H.  
Dennett, Carl P.  
Devens, Mrs. Elizabeth P.  
Dexter, Miss Katharine S.  
Dodd, Mrs. Henry W.  
Douring, Miss A. R.  
Dowd, Joseph  
Dresser, Miss C. L.  
Drury, Miss Miriam  
Dudley, Miss C. E.  
Dulaney, B. L.  
Earl, Mrs. Elizabeth F.  
Eaton, Miss Mary Josephine  
Eby, Miss Irva  
Edwards, Mrs. E. P.  
Ells, D. P.  
Ely, Gertrude

Ernst, Roger	Perkins, E. Stanley
Evans, Walter S.	Pickford, Horace R.
Evans, W. Conroy	Pierce, Col. P. E.
Fay, Mrs. D. B.	Pillmore, Mrs. Mary
Fay, Mrs. W. B.	Prochaska, Joe. V.
Fowler, Ralph N.	Rand, Mrs. F. C.
French, Mrs. James H.	Randolph, Mrs. E.
Friedman, Mrs. Anna E.	Reed, Franklin C.
Garcelon, Merrill	Revel, Miss Friedericka E. J.
Gleim, Mrs. Amy L.	Rives, G. B.
Goodrich, Mrs. A. B.	Roberts, Miss Miriam W.
Gribbel, Mrs. John	Robbins, Mrs. Geo. S.
Halsey, William A.	Rockefeller, Miss Alice M.
Hamlin, H. B.	Rollmann, Fred C.
Hixson, Mrs. H. R.	Rounds, Mrs. E. H.
Hoadley, Miss Elizabeth N.	Runk, H. T. B.
Housman, A. A.	Rushton, Mrs. Joseph A.
Hull, Mrs. H. S.	Sawyer, Mrs. John P.
Irish, Mrs. Linda	Schoenthaler, Fred C.
Jenner, Mrs. Edward	Shove, Charles M.
Johnston, John White	Soci��� Provencher d'Histoire
Kelsey, Virginia	Stewardson, Miss M. M.
Kendall, Miss Alice G.	Sweetland, E. C.
Kietzinger, Mrs. Clara Wilson	Taylor, Miss Marcia I.
LaDue, Harry J.	Thomas, Mrs. George C.
Leavenworth, Miss M.	Tiemann, Mrs. Ella A.
Lewis, Dr. Richard H.	Torrance, Mrs. Francis J.
Loring, Augustus P., Jr.	Tracy, William S.
McLean, Mrs. Nellie M.	Tuttle, Horace N.
Macpherson, Miss Elizabeth	Upham, Mrs. Clara S.
Metcalf, Mrs. Wm., Jr.	Voigtlander, George
Miller, Miss Matilda	Weeks, Mrs. Frank
Monroe, Burt L.	Weil, Mrs. Julius E.
Musselman, Guy N.	Wells, Ben G.
Newberry, Mrs. A. S.	Wells, Paul A.
Noyes, Richard K., Jr.	Welsh, Charles N.
Papin, Edward V.	Woolston, Mrs. Joseph L.
Papin, Miss Julia M.	

## CONTRIBUTIONS FOR EGRET PROTECTION

From October 20, 1919 to March 1, 1920

Balance unexpended . . . . .	\$1,539 44	Brooks, S. . . . .	\$5 00
Ackley, Adeline E. . . . .	3 00	Brown, Mrs. Addison . . . . .	5 00
Allen, Gertrude . . . . .	10 00	Burgess, E. Phillips . . . . .	3 00
Allen, M. Catherine . . . . .	5 00	Burnham, Mrs. Wm. . . . .	10 00
Ash, Mrs. Charles G. . . . .	20 00	Burt, Edith B. . . . .	2 00
Auchmuty, Mrs. R. T. . . . .	200 00	Busk, Fred T. . . . .	5 00
Ault, L. A. . . . .	20 00	Butler, Mrs. Paul . . . . .	10 00
Babcock, Mrs. Perry H. . . . .	5 00	Button, Conyers . . . . .	10 00
Bainbridge, Mrs. M. H. . . . .	5 00	Carse, Harriet . . . . .	2 00
Baldwin, S. P. . . . .	10 00	Chahoon, Mrs. George, Jr. . . . .	25 00
Ball, Susan L. . . . .	25 00	Chase, Helen E. . . . .	5 00
Bancroft, Wm. P. . . . .	25 00	Christian, Elizabeth . . . . .	2 00
Barclay, Emily . . . . .	5 00	Christian, Mrs. M. H. . . . .	2 00
Baruch, Bernard M. . . . .	10 00	Christian, Susan . . . . .	10 00
Beall, Mrs. I. A. . . . .	5 00	Clark, Mrs. Louise . . . . .	2 00
Berge, Marie T. . . . .	1 00	Cockcroft, Elizabeth V. . . . .	10 00
Bignell, Mrs. Effie . . . . .	1 00	Collins, Mrs. Charles Henry . . . . .	25 00
"Bird-Lover" . . . . .	5 00	Coolidge, T. Jefferson . . . . .	20 00
Bonham, Elizabeth S. . . . .	5 00	Cotton, Elizabeth A. . . . .	50 00
Bonham, Mrs. Horace . . . . .	10 00	Cummings, Mrs. H. K. . . . .	1 50
Brent, Mrs. Duncan Kenner . . . . .	2 00	Curie, Charles . . . . .	5 00
Brock, Mrs. Robert C. H. . . . .	5 00	Cutter, Ralph Ladd . . . . .	5 00

Dabney, Herbert . . . . .	\$2 00	Mott, Miss Marian . . . . .	\$5 00
DeForest, Mrs. Robert W. . . . .	5 00	Myers, Mrs. Harriet W. . . . .	5 00
de La Rive, Rachel . . . . .	5 00	Nice, Mrs. Margaret M. . . . .	3 00
DeNormandie, James . . . . .	5 00	Osborne, Arthur A. . . . .	1 00
Ducharme, Wm. H. . . . .	50 00	Paine, F. W. . . . .	25 00
Dusinberre, Mrs. Nancy B. . . . .	25 00	Parmelee, Robert M. . . . .	10 00
Eaton, Mary S. . . . .	5 00	Parsons, Mrs. J. D., Jr. . . . .	100 00
Emery, Georgia Hill . . . . .	20 00	Patton, Mrs. Margaret S. . . . .	5 00
Emery, Georgiana . . . . .	1 00	Peck, Mrs. E. S. . . . .	1 00
Emery, Louisa J. . . . .	1 00	Peters, Mrs. Edward M. . . . .	5 00
Emmons, Mrs. A. B. . . . .	5 00	Poole, Grace H. . . . .	1 00
Emmons, Mrs. R. W., 2d . . . . .	10 00	Rhoads, S. N. . . . .	1 50
Evans, William B. . . . .	4 00	Richards, Mrs. L. S. . . . .	5 00
Farwell, John V. . . . .	50 00	Righter, William S. . . . .	5 00
Forbes, Mrs. M. J. . . . .	5 00	Robb, Mrs. Alexander . . . . .	5 00
Friedman, Mrs. Max . . . . .	2 00	Rothermel, John J. . . . .	1 00
Fries, Emilie . . . . .	1 00	Sexton, Mrs. Edward B. . . . .	5 00
Frothingham, John W. . . . .	35 00	Shoemaker, Henry W. . . . .	10 00
Godeffroy, Mrs. E. H. . . . .	10 00	Simpson, Jean W. . . . .	5 00
Gould, Edwin . . . . .	100 00	Smith, A. Marguerite . . . . .	5 00
Griffin, Mrs. Solomon B. . . . .	3 00	Smith, Charles E. . . . .	3 00
Hall, Mrs. F. A. . . . .	5 00	Spachman, Emily S. . . . .	2 00
Haskell, Helen P. . . . .	2 00	Spalter, Mrs. F. B. . . . .	1 50
Hopkins, Augusta D. . . . .	3 00	Sturgis, F. K. . . . .	5 00
Horr, Elizabeth . . . . .	5 00	Thomas, Emily Hinds . . . . .	10 00
Horton, Miss F. E. . . . .	2 00	Timmerman, Edith E. . . . .	1 50
Hoyt, Miss G. L. . . . .	5 00	Tod, J. Kennedy . . . . .	25 00
Hunnewell, H. S. . . . .	50 00	Toussaint, Mrs. L. H. . . . .	2 00
Hunter, Anna F. . . . .	25 00	Tower, Ellen M. . . . .	5 00
Jones, Ella H. . . . .	3 00	Tower, Mrs. Kate D. . . . .	1 00
Jordan, A. H. B. . . . .	20 00	Treat, Miss N. F. . . . .	2 00
Kerr, Mrs. T. B. . . . .	1 00	Vaillant, Mrs. G. H. . . . .	3 00
Knowlton, Mrs. Myra R. . . . .	3 00	Van Dyke, Dr. Tertius . . . . .	5 00
Kuhn, Arthur K. . . . .	5 00	Varicle, Renée. . . . .	2 00
Kuithan, Emil F. . . . .	25 00	"Vermont" . . . . .	5 00
Lagowitz, Harriet L. . . . .	1 00	Von Zedlitz, Mrs. Anna . . . . .	2 00
Lewis, Edwin J., Jr. . . . .	1 00	Wallace, Mrs. Augusta H. . . . .	5 00
McConnell, Mrs. Annie B. . . . .	50 00	Webster, F. G. . . . .	100 00
Marrs, Mrs. Kingsmill . . . . .	5 00	Weeks, Hon. John W. . . . .	50 00
Martin, Mrs. Bradley . . . . .	50 00	Whitney, Ellen P. . . . .	1 00
Mason, G. A. . . . .	10 00	Willcox, Miss M. A. . . . .	10 00
Mason, H. L., Jr. . . . .	5 00	Williams, Geo. F. . . . .	5 00
Merriman, Mrs. Daniel . . . . .	25 00	Williams, Mrs. Sydney M. . . . .	2 00
Mills, Dr. Herbert R. . . . .	5 00	Work, Mrs. A. . . . .	25 00
Mitchell, Mrs. John G. . . . .	10 00		
Montell, Mrs. F. M. . . . .	2 50		
Moore, Alfred . . . . .	5 00		
		Total. . . . .	\$3,274 94









# YELLOW-BELLIED SAPSUCKER

Order—PICI

Family—PICIDÆ

Genus—SPHYRAPICUS

Species—VARIUS VARIUS

National Association of Audubon Societies